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A FRUIT AND VEGETABLE BUYING GUIDE FOR CONSUMERS

PREPARED IN THE FRUIT AND VEGETABLE BRANCH, PRODUCTION AND MARKETING ADMINISTRATION¹

General Considerations

AT THE MARKET

The city market of today presents for the consumer's choice a bewildering display of fruits and vegetables, many of which are in constant supply the year round, and usually at a price within the reach of the average customer. It is no longer a novelty to find many kinds of fresh fruits and vegetables on the markets during the winter months. Formerly they were available only during the local production season, but now they are shipped out of season from the production areas in which they are available.

The present-day market with its great variety of products is largely the result of modern methods of production, handling, grading, and packing, combined with improved transportation facilities that make it possible to ship to distant markets the most perishable fruits and vegetables. There are in addition storage facilities for the less perishable crops which insure a more even distribution and a year-round supply.

The fruits and vegetables that have thus moved from the occasional into the regular supply include fresh snap beans and new cabbage, beets, broccoli, carrots, turnips, cauliflower, cucumbers, eggplant, lettuce, peppers, peas, spinach, tomatoes, and other fresh vegetables; and grapes, avocados, lemons, pears, apples, oranges, and other fruits. The supply is augmented by shipments from Cuba, Mexico, Chile, Brazil, Argentina, Bermuda, Jamaica, Canada, Australia, Puerto Rico, Italy, and other producing countries. The sources of supply vary as the seasons change and as local supplies become available.

With so many different fruits and vegetables to choose from, it is not surprising that the buyer is perplexed by the problem of selection. If the housekeeper is buying for a family, uppermost in her mind are the questions of what to buy, and how to buy to the best advantage. Some of the cash-and-carry stores have emphasized the price appeal, and have encouraged the housewife to make her own selection of the foodstuffs offered for sale. Generally, these products may be roughly divided into two groups—those manufactured or processed, like staple groceries and frozen, dried, and canned goods, and those sold in the fresh or raw state, like most fruits and vegetables.

Staple groceries are usually sold in the package, because the manufacturers cater to the needs, convenience, and demands of the consuming public. When buying such commodities the customer is usually selecting a more or less standardized product and is aided in this selection by the manufacturer's label, which identifies the product.

Fruit and vegetable growers usually pack their products according to some rather definite standard of size and quality, and in many instances use

¹ The marketing work on fruits and vegetables is now a part of the Production and Marketing Administration. Gerald R. Blount, of the Fruit and Vegetable Branch, PMA, prepared this revision of Misc. Pub. 167, which was originally written by R. G. Hill. Mr. Hill died October 4, 1940.

a brand name that may indicate a certain grade. Fruit growers, particularly those who produce citrus fruits and apples, have gone far in this direction. But unlike canned goods or packaged groceries, fresh fruits and vegetables usually do not bear individual or retail labels, although in many instances there is a label or other mark showing grade, size, etc., on the shipping container. The brand name is sometimes indelibly marked on the skin of individual citrus fruit, and apples packed in boxes or baskets may have the brand name printed on the paper wrappers.

In recent years a number of fresh fruits and vegetables have been packed in consumer-sized packages. Notable among these have been potatoes, onions, and oranges in small bags; apples in small bags or cartons; ripened tomatoes in cartons; spinach and other greens in 10- to 12-ounce cellophane bags; and washed and diced vegetable soup mixes in cartons or cellophane bags.

For display purposes retailers often remove fresh produce from the original shipping container or from the individual wrapper. Thus brand or grade marks are lost to the retail buyer, except in the case of individually marked citrus fruits and nuts. Sometimes the display is made by exposing the fruits or vegetables in the original container, but in such displays the label or other distinguishing mark as to variety, brand, size, or grade, is not always readily seen by the housewife. She is left to make her selection according to her experience, or she is dependent on the advice of the retailer's clerk.

GRADES

Many of the grades under which most fruits and vegetables are packed in producing sections were developed by the United States Department of Agriculture and are known as the United States grades. The minimum quality requirements for fruits and vegetables are clearly defined in the various grades. It should be understood that since all the Federal fruit and vegetable grades describe the minimum quality that will be permitted in a grade, there is a possibility of a difference in quality between lots of fruits or vegetables of the same grade designation. One grower's product when packed may just meet the minimum requirement for a certain grade, whereas another's may be of such size and quality that it will be considerably above the minimum requirements of the same grade; yet both lots will be classified as of the same grade. But the commercial buyer who makes purchases under the United States grades knows that if he buys fruits or vegetables of the United States No. 1 grade, or any other grade, his purchases will not be below a certain quality.

The use of the grades promulgated by the United States Department of Agriculture is optional, yet these grades are the basis on which much of the trading in the wholesale market is done. The consumer is benefited by their use in the wholesale trade since they enable the retailer to obtain a supply of each product which is of nearly uniform quality.

The necessity for definite grades for perishable produce became evident during World War I when the Food Administration, under its licensing system, was forced to decide quickly the controversies that arose between shippers and receivers. Since that time the work of establishing grades has gone steadily forward. There are now Federal grades in use for 62 different fruits and vegetables, with 102 different standards, as follows:²

² Descriptions of any of these United States standard grades for fruits and vegetables may be had upon request to the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Anise (sweet); apples, apples (for processing); apricots; artichokes; asparagus, asparagus (for canning or processing); beans faba (fava); beans (lima), beans (lima, shelled for processing); beans (snap), beans (snap for canning or freezing); beets (bunched), beets (topped), beets (with short-trimmed tops), beets (for processing); broccoli (bunched Italian sprouting); cabbage, cabbage (for processing); cantaloups; carrots (bunched), carrots (topped), carrots (with short-trimmed tops), carrots (for processing); cauliflower; celery; cherries (red sour for manufacture), cherries (sweet), cherries (sweet for canning or freezing), cherries (sweet for export for sulphur brining); citrus fruits (Florida and Texas); corn (green), corn (sweet for canning); cucumbers (greenhouse), cucumbers (pickling), cucumbers (slicing); dewberries and blackberries, berries (for processing).

Eggplant; endive, escarole or chicory; garlic; grapes (American-eastern type, bunched), grapes (American-eastern type, bunched, for processing and freezing), grapes (juice, European type), grapes (sawdust pack, European type), grapes (table, European type); grapefruit (California and Arizona); honey dew and honey ball melons; horseradish (roots); kale; lemons; lettuce, lettuce (greenhouse leaf); limes (Persian, Tahiti); mushrooms; mustard greens; nectarines; okra; onions (Bermuda), onions (Creole), onions (northern-grown), onions (for processing), onions (common green); oranges (California and Arizona); parsley; parsnips; peaches, peaches (freestone for canning), peaches (freestone for freezing or pulping); pears (summer and fall, such as Bartlett, Hardy, and other similar varieties), pears (winter, such as Anjou, Bosc, Winter Nelis, Comice, and other similar varieties), pears (for canning); peas (fresh), peas (for canning or freezing); peppers (sweet); pineapples, pineapples (Puerto Rican); plums and prunes.

Potatoes; radishes; raspberries; rhubarb (field-grown); romaine; shallots (bunched); spinach, spinach (leaves, fresh), spinach (cannery); squash (fall and winter type), squash (summer); strawberries, strawberries (growers' stock for manufacture), strawberries (washed and sorted for freezing); sweetpotatoes; tangerines; tomatoes (fresh), tomatoes (canning), tomatoes (for manufacture of strained tomato products), tomatoes (greenhouse); turnips (bunched), turnips or rutabagas (topped); turnip greens; and watermelons.

These grades were not developed with the consumer especially in mind, but a study of them by the customer can give valuable assistance, especially in the buying of large quantities. The housewife will at least gain an appreciation of quality as defined in the grades, and learn what defects of fruits and vegetables are considered serious. Until grades especially adapted to her needs are developed, the housewife will have to depend on the advice offered her and her own good judgment.

U. S. consumer standards for potatoes were issued December 8, 1947. These standards were developed with the consumer especially in mind and it is hoped that through their use consumers will be able to buy potatoes which will more readily meet their requirements as to quality and size.

DETERIORATION OF FRUITS AND VEGETABLES

The condition of a fruit or vegetable when it reaches the consumer depends upon its condition when harvested, the number of handlings it has had, the temperature during the marketing period, the length of time it has been in transit, the length of time it remains in the retail store, and the extent to which natural deterioration has progressed. Many of the mos-

perishable kinds of fruits and vegetables are shipped hundreds of miles. A considerable time is spent in transit, but the care and skill with which the commodity is handled and packed frequently offsets to a great extent the factors of time and distance.

Great progress has been made in handling and transporting fruits and vegetables, and increasingly greater care is exercised in preparing them for market, but perishables are frequently offered for sale in poor condition. Fruits and vegetables usually leave the shipping point in good condition; but the grower or shipper cannot foresee what the condition of the commodity will be when it reaches the retailer, who may then have to hold it for a considerable time before he sells it to the consumer.

Poor condition is particularly true of readily perishable fruits and vegetables such as strawberries, green corn, and tomatoes. Overheating or freezing may occur, or some form of disease may develop in transit. At times the movement from one dealer to another is delayed, and this results in deterioration. In such cases, it is often necessary to recondition the produce by removing the damaged portions and repacking. For example, celery, cabbage, lettuce, and cauliflower may arrive on the market with a few of the outer leaves yellowed, bruised, wilted, or decayed; these leaves are removed, leaving the remainder of the stalk or head in good condition.

PRICES

Fruits and vegetables are usually lowest in price in any given market when the nearby supply is most abundant, but this is not always true. For instance, in some of the eastern markets, peaches may be cheaper at the height of the Georgia and South Carolina season than when the local supply is being sold. The scarcity or abundance of a commodity regulates the price more often than does any other factor, as demonstrated by the prices of some fruits or vegetables that may be scarce on one market and abundant on another. Such conditions depend largely upon the proximity of the market to producing sections, the methods of distribution, and the growing season in the district in which the market is located. If a housekeeper knows the approximate shipping season and the origin of the chief shipped-in fruits and vegetables found on her market (tables 1 and 2), and if she has a good general idea of what is produced and the season of production in the nearby district, she can somewhat accurately estimate the relative market prices of the products during the various months.

TABLE 1.—*Approximate shipping season of fresh fruits and melons, by States of origin¹*

State	Apples	Cantaloups	Cherries	Cranberries	Grapefruit	Grapes
Alabama.....	June-Sept.	June.....				July-Aug.
Arizona.....	Oct.	May-Aug.				June-Aug.
Arkansas.....	June-Apr.	July-Aug.				July-Sept.
California.....	June-May.....	May-Oct.	Apr.-July.....			June-Feb.
Colorado.....	Sept.-Apr.	Aug.-Oct.	July.....			
Connecticut.....	Sept.-Mar.					
Delaware.....	June-Mar.					
Florida.....						
Georgia.....						
Idaho.....	June-Jan.	June-July.....	June-July.....			
Illinois.....	July-May	Aug.	Sept.			
Indiana.....	June-May.....	July-Aug.				
Iowa.....	June-May.....	Aug.-Nov.				
Kansas.....	July-Feb.....	Aug.-Sept.				
Kentucky.....	June-Mar.					
Louisiana.....						
Maine.....						
Maryland.....						
Massachusetts.....						
Michigan.....	Sept.-Apr.	June-Apr.	July-Sept.	Sept.-Feb.		
Minnesota.....	Aug.-Mar.	July-May.....	Aug.-Sept.	Oct.-Nov.		
Missouri.....	Aug.-Oct.	Aug.-Oct.	July-Aug.	Oct.-Nov.		
Montana.....	June-May.....	June-May.....				
Nebraska.....	Aug.-Mar.	July-Nov.....				
Nevada.....	July-Nov.....	July-Sep.				
New Hampshire.....	Sept.-Mar.	Sept.-Mar.				
New Jersey.....		June-May.....	Aug.			
New Mexico.....		Aug.-Mar.	July-Aug.			
New York.....	July-June					
North Carolina.....	Aug.-Mar.					
Ohio.....	July-May.....	July-Aug.				
Oklahoma.....	Aug.-Oct.	July-Aug.				

¹ See footnote at end of table.

TABLE I.—*Approximate shipping season of fresh fruits and melons, by States of origin* 1—Continued

State	Apples				Cherries				Grapes			
	Cantaloups				Cranberries				Grapefruit			
Oregon.....	July—May.....	Aug.—Sept.....	June—Aug.....		Sept.—Dec.....						Oct.	Sept.—Nov.
Pennsylvania.....	July—May.....	June—July.....										
South Carolina.....	June—Sept.....	Aug.....	May—Aug.....								Junc.—July.	Sept.—Oct.
Tennessee.....	Aug.—Oct.....	Aug.—Sept.....	Aug.—Sept.....									
Texas.....	Sept.—Apr.....	July—Aug.....	July—Aug.....									
Utah.....	Sept.—Feb.....	July—June.....	July—June.....									
Vermont.....												
Virginia.....												
Washington.....												
West Virginia.....												
Wisconsin.....												
Wyoming.....												
State												
Alabama.....	June—Aug.....		July—Sept.....		June—July.....		Apr.—June.....				June—Sept.	
Arizona.....	June—Aug.....		Sept.—Oct.....		May—Sept.....		Apr.....				May—Aug.	
Arkansas.....	May—Oct.....		June—May.....				Apr.—May.....				July—Sept.	
California.....	Aug.—Oct.....		Aug.—Nov.....								May—Oct.	
Colorado.....											Sept.—Oct.	
Connecticut.....												
Delaware.....												
Florida.....												
Georgia.....												
Idaho.....												
Illinois.....												
Indiana.....												
Iowa.....												
Kansas.....												
Kentucky.....												
Louisiana.....												

Maryland.....	July-Sep.	Aug.-Oct.	May-June.....	May-June.....
Massachusetts.....	Sep.	Aug.-Nov.	June-July.....	June-July.....
Michigan.....	Aug.-Oct.	Aug.-Oct.	June-July.....	Aug.
Minnesota.....			Sept.	Sept.
Mississippi.....			Apr.-May.....	June-Sept.
Missouri.....	June-July	July-Aug.	May-June.....	July-Sept.
Montana.....	July-Aug.	Sept.-Oct.	June-Sept.	Sept.
Nebraska.....	Sep.	Sept.-Oct.		July-Aug.
Nevada.....			May-June.....	Aug.-Sept.
New Jersey.....	July-Sep.	Aug.-Sept.	May-June.....	May-June.....
New Mexico.....	July	Aug.-Oct.	Aug.-Sept.	Aug.-Sept.
New York.....	Aug.-Oct.	Aug.-Oct.	June-July.....	June-July.....
North Carolina.....	May-Aug.	Aug.-Mar.	Sept.-Oct.	Sept.-Oct.
Ohio.....	Aug.-Oct.	Aug.-Nov.	Apr.-May.....	July-Aug.
Oklahoma.....	June-Aug.	Sept.-Oct.	May-June.....	July-Sept.
Oregon.....	Aug.-Oct.	Aug.-Apr.	May-June.....	Aug.-Sept.
Pennsylvania.....	Aug.-Sept.	Sept.-Oct.	Aug.-Oct.	Apr.-May.....
South Carolina.....	June-Aug.	Aug.	Sept.	June-Sept.
South Dakota.....				Aug.-Sept.
Tennessee.....				July-Sept.
Texas.....	July-Aug.	Sept.-Oct.	Apr.-June.....	May-Sept.
Utah.....	June-Aug.	July-Oct.	Mar.-May.....	Aug.-Oct.
Virginia.....	Aug.-Sept.	Aug.-Dec.	June.....	July-Sept.
Washington.....	July-Sep.	Sept.-Oct.	Apr.-June.....	Aug.-Sept.
West Virginia.....	July-Oct.	July-May	May-July.....	Aug.-Sept.
Wisconsin.....	July-Sep.	Sept.-Oct.	June-July.....	Aug.-Sept.

¹ Lemons are shipped all the year from California; the heaviest movement is during the summer months. California and Florida ship oranges throughout the year. Alabama, Arizona, Louisiana, and Mississippi ship oranges during the fall and early winter, while the Texas shipping season extends from October to March.

TABLE 2.—*Approximate shipping season of fresh vegetables, by States of origin*

State	Asparagus	Beans, snap	Cabbage	Carrots	Cauliflower	Celery
Alabama.....		May-June.....	{ Mar.-July..... Jan.-Feb.....}			
Arizona.....		May-Oct.....	Mar.-July.....	Dec.-June.....	Dec.-Feb.....	
Arkansas.....	{ Mar.-July..... Oct.-Nov.....	Apr.-June..... July-Sept.....	{ Mar.-June..... Sept.-Apr. ¹ July-Jan.....	{ Oct.-Sept..... July-Jan.....	Oct.-June..... June-Nov.....	Sept.-June, ² July-Dec.....
California.....		July.....				
Colorado.....		July.....				
Connecticut.....						
Delaware.....						
Florida.....		Oct.-June.....	Dec.-May.....	Jan.-Apr.....	Jan.-Feb.....	Dec.-June.....
Georgia.....		Apr.-June.....	Feb.-June.....			
Idaho.....			Aug.-Jan.....			Sept.-Nov.....
Illinois.....			June-Nov.....	Oct.-Apr.....		Nov.
Indiana.....			July-Nov.....	Sent.-Nov.....		Sept.-Oct.
Iowa.....			June-Nov.....	Nov.		
Kansas.....			June-July.....	July.....		
Kentucky.....		Apr.-July.....	June-July.....	Mar.-June.....	June-July.....	
Louisiana.....				Mar.-June.....		
Maine.....				Oct.-Mar.....		
Maryland.....	Apr.-May.....	June-Oct.....	June-July.....	July.....		June.....
Massachusetts.....			an.....	Sept.-Dec.....		
Michigan.....				Aug.-Apr.....	Oct.-Nov.....	June-Feb.
Minnesota.....				July-Mar.....	Sept.-Oct.....	Sept.-Oct.
Mississippi.....					May-July.....	
Missouri.....					June-July.....	
Montana.....					Sept.-Dec.....	
Nebraska.....					July.....	Oct.
Nevada.....					May.....	May.
New Hampshire.....					Sept.-Oct.....	
New Jersey.....					June-July.....	
New Mexico.....	Apr.-June.....	June-Sept..... July-Aug.....		June-Oct..... { May-June..... Sept.-Dec.....		Oct..... July-Dec.....

New York.....	July-Sept. May-July {Oct.-Nov.	Aug.-Apr. Apr.-June Aug.-Oct.	Aug.-July June-July Sept.-Mar.	July-Mar.
North Carolina.....	July.....	June-Sept. Aug.-Jan. Sept.-Mar.	July-Feb.	July-Feb.
Ohio.....	July.....	June-Sept. Aug.-Oct.	July-Sept.	July-Sept.
Oklahoma.....	July.....	June-Sept. Aug.-Oct.	July-Sept.	July-Sept.
Oregon.....	June.....	Aug.-Jan. Sept.-Mar.	Sept.-Mar.	Sept.-Mar.
Pennsylvania.....	June.....	Aug.-Jan. Sept.-Mar.	Sept.-Mar.	Sept.-Mar.
South Carolina.....	Mar.-May.....	Apr.-June {Sept.-Nov.	Oct.-Dec. Apr.-June Mar.-June Nov.-Feb.	July-Dec. July-Oct.
South Dakota.....	.....	Sept.-Oct. May-June Oct.-Nov.	Oct.-Dec. Apr.-June Nov.-June	July-Sept.
Tennessee.....	.....	June-July Sept.-Oct. Mar.-May {Nov.-Dec.	May-July Oct.-Nov.	July-Sept.
Texas.....	.....	.....	Nov.-July Aug.-Jan.	Oct.-Jan.
Utah.....	.....	.....	Oct.-Jan.	Oct.-Jan.
Vermont.....	.....	.....	Aug.-Nov.	Aug.-Nov.
Virginia.....	.....	May-Nov.	Sept.-Nov. (Apr.-June Dec.-Mar.)	Oct.-Jan.
Washington.....	.....	Apr.-June.....	May-Aug. June-Mar.	May-June. {Oct.-Nov.
West Virginia.....	.....	June-July July.....	June-Mar.	June-Oct.
Wisconsin.....	.....	.....	Aug.-Mar.	Sept.-Dec.
Wyoming.....	.....	Sept.-Feb.	Jan.....	Oct.-Nov.

See footnotes at end of table.

TABLE 2.—*Approximate shipping season of fresh vegetables, by States of origin—Continued*

State	Cucumbers	Eggplant	Lettuce	Onions	Peas, green
Alabama.....	May-June.....	.....	Nov.-May.....	.....	July-Apr.-May.
Arizona.....	Junc.-July.....	Oct.-Sept.....	June-Aug.....	.....	Jan.-Dec. ⁴
Arkansas.....	May-Dec.....	Apr.-Mar.....	Apr.-Mar.....	.....	June-Sept.
California.....	Aug.-Sept.....	Sept.-Apr.....	June-Nov.....	.....	.....
Colorado.....	.....	.....	.....	.....	.....
Connecticut.....	.....	.....	.....	.....	.....
Delaware.....	.....	.....	.....	.....	.....
Florida.....	July-Aug.....	Aug.-Sept.....	.....	.....	Dec.-Mar.
	{Feb.-June (Oct.-Dec.).....	{Oct.-July.....	Nov.-Apr.....	Apr.-May.....	.....
	May-June (Sept.-Oct.).....	.....	Mar.-Apr.....	May-July.....	.....
	Feb.-Sept.....	.....	June-Nov.....	Sept.-Mar.....	June-Sept.
	Feb.-Sept.....	.....	.....	July-Apr.....	June
	Mar.....	.....	.....	Aug.-Apr.....	.....
	.....	.....	.....	July-Mar.....	June
Georgia.....	.....	.....	.....	July-Sep.....	.....
Idaho.....	.....	.....	.....	Jan.-Mar.....	.....
Illinois.....	.....	.....	.....	June-Sep.....	.....
Indiana.....	.....	.....	.....	.....	.....
Iowa.....	.....	.....	.....	.....	.....
Kansas.....	.....	.....	.....	.....	.....
Kentucky.....	.....	.....	.....	.....	.....
Louisiana.....	.....	.....	.....	.....	.....
Maine.....	.....	.....	.....	.....	.....
Maryland.....	July-Aug.....	.....	May-June.....	July-Aug.....	May-June.
Massachusetts.....	.....	.....	.....	July-Apr.....	Oct.
Michigan.....	.....	Aug.-Sept.....	.....	Aug.-Apr.....	.....
Minnesota.....	.....	Aug.....	July.....	Aug.-Apr.....	.....
Mississippi.....	.....	June.....	June.....	June.....	.....
Missouri.....	.....	July and Sept.....	May.....	Aug.-Sept.....	.....
Montana.....	.....	.....	July-Oct.....	Sept.-Oct.....	.....
Nebraska.....	.....	.....	.....	Sept.-Feb.....	.....
Nevada.....	.....	.....	Dec.-Jan.....	Oct.-Mar.....	.....
New Hampshire.....	.....	.....	.....	Oct.....	.....
New Jersey.....	July-Aug.....	.....	.....	May-June (Oct.-Dec.).....	June.

New Mexico.....	Aug.-Oct.	June-Dec.	Aug.-Oct.	May.
New York.....	June-July	June-Nov	July-May	June-Sept.
North Carolina.....		Apr.-May	June	Apr.-June
North Dakota.....			Oct.-Mar.	
Ohio.....	Apr.-Aug.	Nov.-May	Aug.-Apr.	June-July
Oklahoma.....	July	(Oct.-Nov	June-Oct.	
Oregon.....		May-June	Sept.-May	
Pennsylvania.....	Aug.	June-Aug.	July-Aug.	June-July
South Carolina.....	May-July	Mar.-May	July-Aug.	
South Dakota.....			July-Aug.	Apr.-May.
Tennessee.....			Oct.	
Texas.....	Apr.-July	Oct.-Nov	Jan.-Mar.	May-June.
Utah.....			July-Oct.	Mar.-June.
Vermont.....			Aug.-Apr.	Mar.-June.
Virginia.....	May-July	July-Aug.	Aug.-Sept.	June-July.
Washington.....	Oct.-Nov	(Apr.-May.	(Apr.-May.	(Apr.-June.
West Virginia.....		(Nov.-Dec.	June-Aug.	(Oct.-Nov.
Wisconsin.....		May-Nov	July-Mar.	Junc.-Aug.
Wyoming.....				June.

See footnotes at end of table.

TABLE 2.—*Approximate shipping season of fresh vegetables, by States of origin—Continued*

State	Peppers	Potatoes	Spinach	Sweetpotatoes	Tomatoes	Turnips
Alabama.....	Apr.-July June-Nov. (May-Aug. Jan.-Feb.)	Nov.-Jan. Nov.-Dec. Mar.-May	July-June.	July.	July-June.	Dec.-Mar.
Arizona.....	June	Oct.-May	Oct.-May	{ June-Aug. Oct.-Nov.	{ June-Aug. Oct.-Nov.	May Nov.-Dec.
Arkansas.....	{ Sept.-Dec. Aug.-Oct.	Oct.-May	Aug.-Mar.	Apr.-Dec.	Aug.-Oct.	Nov.-May. Oct.-Mar.
California.....	May-Apr. ⁶	May-Oct.	Sept.-May	Sept.-May	Sept.-May	Nov. and Feb. Nov.-May.
Colorado.....	July-June	July-Apr.	June-Apr.	June-Apr.	May-July	Oct. and May.
Connecticut.....	Oct.					
Delaware.....	Sept.-Oct.	July-Apr.	Oct.-May	Oct.-May	Oct.-May	Oct.-Nov.
Florida.....	Nov.-July	Jan.-July	May-Aug.	Oct.-May	May-July	Oct.-Nov.
Georgia.....	June-Dec.	July-June	{ Apr.-May. Oct.-May.	Oct.-Mar.	Oct.-Mar.	{ Oct.-Feb. Oct.-Feb.
Idaho.....						{ June-July. Oct.-Nov.
Illinois.....	Oct.-Nov.	July-Nov.	{ Oct.-Nov.	Oct.-Mar.	July-Oct.	{ June-July. Oct.-Nov.
Indiana.....					Oct.-Apr.	{ June-July. Oct.-Nov.
Iowa.....	Sept.-Oct.	Aug.-May	Sept.-Jan.	Sept.-Jan.	Aug.-Sept.	{ Sept.-Jan. Oct.-Nov.
Kansas.....		July-Mar.	Apr.	Sept.-Apr.	July-Aug.	{ Sept.-Jan. Sept.-Jan.
Kentucky.....		June-Mar.	Jan.-Apr.	Sept.-June	Aug.-Oct.	{ Sept.-Jan. Sept.-Jan.
Louisiana.....		Mar.-Feb.		July-June	June-July	{ Dec.-Apr. Sept.-Nov.
Maine.....		Aug.-July	{ June-Sept. (Oct.-May	Aug.-June	July-Oct.	{ April-June. June-July.
Maryland.....	Aug. and Oct.	Aug.-Oct.	Apr.-June	Aug.-June	July-Oct.	Oct.-May.
Massachusetts.....	Oct.	Sept.-Dec.	Sept.-Dec.			Aug.-Oct.
Michigan.....						Aug.-Dcc.
Minnesota.....						July-May.
Mississippi.....						Mar.-May.
Missouri.....						Oct.-Nov.
Montana.....		Aug.-June	May-June	Aug.-May	May-July	Oct. and Mar.
Nebraska.....		Aug.-June	{ Oct.-Nov.	Oct.-Mar.	July-Aug.	Oct. and Mar.
Nevada.....		Sept.-May				

New Hampshire.....	July-Nov.	Sept.-May July-Apr.	Mar.-Apr. (Oct.-Nov.)	Aug.-May Dec.-June	July-Oct. Aug.-Oct.	Jan.
New Jersey.....	Dec.-Jan.	July-Apr.	Dec.	July-Junc.	Aug.-Oct. Aug.-Oct.	July-Apr.
New Mexico.....	Sept.	July-June	June-Oct.	July-Junc.	Sept.-May. Apr.-May.	Sept.-May.
New York.....	June-Oct.	May-Feb.	Jan.-Feb.	July-Junc.	July-Aug.	Apr.-May.
North Carolina.....	Aug.-Oct.	Aug.-June	Oct.-Nov.	May-Dec.	Oct.-Dec.	Oct.-Dec.
North Dakota.....	....	July-Apr.	Apr.-May	Oct.-Apr.	June-July	Nov.-Dec.
Ohio.....	....	June-Feb.	Oct.-Nov.	May-Dec.	July-Aug.	....
Oklahoma.....	....	July-June	July-Aug.	June-July	July-Aug.	....
Oregon.....	....	Aug.-June	(Oct.-Nov.)	Aug.-Oct.	Aug.-Oct.	Feb.
Pennsylvania.....	....	Aug.-Sept.	(Apr.-May)	May-July	May-July	Nov.-July
Rhode Island.....	June-Nov.	May-Sept.	Oct.-Apr.	July-May	May-July	Nov.-June.
South Carolina.....	Sept.	Aug.-May	Apr.-May	Aug.-July	June-Aug.	Sept.-Nov.
South Dakota.....	....	June-Nov.	June-Nov.	Aug.-May	Apr.-Aug. {Sept.-Jan.	Dec.-Mar.
Tennessee.....	....	....	Mar.-Feb.	Nov.-Apr.	Aug.-May	Aug.-Oct.
Texas.....	June-July	....	July-May	....	....	Nov.-Dec.
Utah.....	....	Sept.-May	(June-Sept.) (Oct.-Apr.)	Nov.-May	Aug.-May	June-Sept.
Vermont.....	....	....	....	....	....	....
Virginia.....	Aug.-Nov.	....	....	....	....	....
Washington.....	Aug.-Sept.	....	July-June	....	June-Sept.	July-June.
West Virginia.....	....	....	July-Jan.	....	July-Aug.	Nov.
Wisconsin.....	....	....	Aug.-July	....	Aug.-Jan.	Aug.-Jan.
Wyoming.....	....	....	July-May	....	....	....

¹ Imperial Valley, January to May.² Southern district, April to March.³ Other Virginia, July to October.⁴ Imperial Valley, November to April.⁵ Southern district, April to March.⁶ Other Virginia, June to December.

Intelligent and efficient buying of fruits and vegetables is thus aided considerably by a knowledge of market supply and demand. This information, together with the prevailing daily prices, is generally to be found in the daily newspapers and in broadcasts by many of the commercial radio stations. These agencies usually obtain their information from the market news service of the United States Department of Agriculture through which all concerned may learn conditions, not only in their immediate locality, but in all markets throughout the United States. It was primarily designed as an aid to the producer, but as it has expanded and become an important factor in the marketing of fresh fruits and vegetables it has come equally within the reach of the average city buyer. It enables the grower and the buyer to do business in the light of actual market conditions.

The prices quoted by the market news service represent those paid to the original receivers for large lots, that is, city market prices paid on large lots and based on the bulk of sales. They do not cover sales in small quantities. The housewife who consults these Government reports should remember that the produce passes through several hands before reaching her, and each transaction increases the cost. But a study of the market reports will at least inform the housewife regarding the trend of the market and the available supplies, and will give her some idea of what the retail price may be. Experience gained in buying after such study of the current market prices, will probably indicate that it is more economical to trade where the advantage of such price change is given. But it should not be overlooked that low prices are not always indicative of poor quality, and high prices cannot be relied upon as an indication of desirable quality.

PRODUCER TO CONSUMER

Over United States railroads and important boat lines more than a million carloads of fresh fruits and vegetables move annually on their journey from the producers to the consumers. To this total must be added the volume of produce which makes the entire journey by motortruck. It is difficult to determine this volume accurately, but the movement into New York City for the year 1946, was equivalent to more than 60,000 carloads. This figure gives a good picture of the tremendous movement by motortruck. It represents approximately one-third of the total carload equivalents received in the city. In addition to the shipments mentioned, some of the more highly perishable products, such as strawberries, are being transported to the markets by airplane. Then, too, there are the shipments received from sources outside the continental United States, which for New York City alone, in 1946, equaled approximately 12,000 carload equivalents which is much less than the prewar imports.

The channels of trade through which this vast supply of fruits and vegetables pass before reaching the consumers are varied. In some instances, the commodity must pass through more hands than in others. The least possible handling occurs when direct producer-to-consumer sales are made. Usually the grower located in a nearby locality makes this type of sale in one of three or four ways: By selling from a wayside stand, by selling from a stand or truck in a municipal or farmers' market, by peddling from door to door, or by selling to consumers in the field or orchard.

The next simplest form of merchandising is seen when the grower located within trucking distance of a market carries his produce direct to retailers, hotels, restaurants, or institutions. He may also sell to a wholesaler, or

he may entrust his product to a commission merchant, thus increasing the number of hands through which it must pass. During recent years itinerant truckmen have been buying from the producer in his field or orchard and selling to retailers or consumers.

Produce from the growers who are located far from markets usually passes through a greater number of hands than does that of the growers who are located in nearby districts. It is impracticable to attempt to describe the many trade channels but one illustration may be suggestive.

A TYPICAL ILLUSTRATION

A typical illustration of the general methods of handling and of the channels through which most fruits and vegetables from a distance reach the consumers is found in the marketing of lettuce grown in the far Southwest and destined for consumption in some eastern market.

As it is harvested, lettuce is usually hauled to a central packing house, where it is prepared for market by being trimmed and graded and packed in crates lined with heavy parchment paper. Crushed ice is placed between layers of lettuce. By retaining the moisture from the slowly melting ice, the paper keeps the lettuce fresh and crisp.

The packed crates are then loaded into refrigerator cars, and crushed ice is scattered over the top layer of crates in the car. In addition, the ice compartments or bunkers in the refrigerator car are often kept filled with ice from the time the car is loaded until it reaches its destination.

The packing house may be owned and operated by the grower or the shipper, or it may be a commercial packing plant operated by individuals who charge the grower a stated price per crate packed. This charge includes crates, paper, crushed ice put in the crates, and all labor used in the packing house and in loading the crates in the refrigerator cars for shipment.

For purpose of illustration, assume that the local shipper sells the car at the shipping point to a local buyer representing a car-lot wholesaler in a receiving market, and the car is shipped East. After a period of 7, 8, or even 10 days, it arrives at its destination. In the meantime, the market price has dropped, and the purchaser decides after examination that he can sell the car to better advantage in another market. The car is again shipped and arrives at its final destination a day or two later. It is again sold to a wholesaler or jobber. The car is unloaded, and the lettuce is hauled to the warehouse or store of the wholesaler or jobber, where sample crates are opened for display. Here the retailer makes his purchases, selecting them to satisfy the particular demands of his patrons. It is not an uncommon practice for the jobber or wholesaler to deliver to the retailer but many retailers haul their own purchases. It may take several days for the jobber to sell the carload, and it may be several days before all the lettuce that the retailer has purchased is bought by consumers.

In this hypothetical case the lettuce was handled or physically moved or transported 11 times as follows:

(1) It was cut and thrown into field boxes or crates. The laborer is usually paid a certain price per crate for this service.

(2) It was probably hauled by motortruck from the field to the packing shed. In large commercial operations this is usually done by a professional truck operator who makes a certain charge per crate for this service.

(3) In the packing house there are necessarily a number of separate handlings of each head, which may include:

- (a) Dumping the field crates into large bins.
- (b) Transferring from the bin to the trimming table.
- (c) Trimming of all heads and the rejection of culs.

- (2) Grading and packing in the crates with crushed ice between the layers.
- (3) Lidding and stacking the crates.
- (4) Trucking into the car.
- (5) Stacking, stripping, and bracing the crates in the car, followed by placing ice over the top layer, known as top-icing.

Each of these processes in a large packing house is performed by different employees, but the entire operation is necessarily covered by a single packing house charge per crate loaded.

(4) If this lettuce were sold by the local shipper as "U.S. No. 1—certificate attached to bill of lading," it would be necessary for him to obtain an official inspection of the packed lettuce actually loaded into the car. For this purpose sample crates would be taken at random usually as they were trucked into the car; they would be opened and examined critically, head by head, until the percentage of U.S. No. 1 and the percentage of defective heads had been determined. This does not involve the rhandling of all the lettuce, but it is a separate commercial operation, usually involving a charge or fee.

(5) The railroad then hauled the lettuce to its first destination, the bunkers being refilled with ice periodically along the way. There is a charge for freight and a separate additional charge for refrigeration.

(6) Its purchaser opened the car and made an inspection of the contents generally, similar to the examination made by the Government inspector at the shipping point. He may even have employed a Government inspector for this purpose; this would involve a fee for this work in the terminal market.

(7) The car then moved to its second destination, and since this involved a 2-day haul there may be an additional freight and refrigeration charge.

(8) This time the car is unloaded and the lettuce is hauled to the warehouse or store of the buyer. This unloading and trucking service is usually covered by a separate charge per crate or per car.

(9) Sales are now made to retailers who may haul away their own purchases or may hire the goods delivered by commercial truckmen. In any event there is involved here a selling and a delivery charge or expense which must include among other things its share of the rent and overhead expenses of the wholesale house.

(10) The crates of lettuce were unloaded at the retail establishment, opened, emptied, and displayed, crate by crate, as sales of individual heads were made to consumers. This necessitated several handlings in the retail store and may have involved additional trimming and waste. In a cash-and-carry store the accumulation of services, charges, and expenses end at this point, but we may have—

(11) Delivery service and the extension of credit by the retailer, which are really additional and special services for which consumers must pay directly or indirectly. They involve additional business processes and additional clerical labor, although they do not necessarily involve physical handlings of the lettuce.

The marketing process here described involves 11 steps; it appears that there were first and last six owners of each head of lettuce: The grower (1) who owned the lettuce until it was sold to the local shipper (2), who in turn sold it to a local buyer or agent (3) representing a distant wholesaler. This wholesaler eventually resold it to a different wholesaler or jobber (4) in the city to which he diverted it from his own market, who thus became the fourth owner. This merchant sold to various retailers (5), after which each head of lettuce was sold to a consumer (6).

In many transactions there are even more changes in ownership. The number of changes does not necessarily affect the final price of any individual carload, crate, or head of lettuce, for in the end the car which has been bought and sold most frequently must be sold in competition with the car which is shipped directly by the grower to the commission merchant in the market who sells it directly to the retailer. In that case there are only two owners, the grower and the retailer, but in making his purchases from the commission merchant or wholesaler, the retailer has no means of knowing which lettuce is still the property of the grower and which has been bought and sold five or six times. They both may have been harvested on the same day from the same field, may be of the same quality, and may be worth in every respect exactly the same price to him. A large number of

handlings simply means that the losses or profits are divided among many agencies instead of a few.

AT THE RETAILER'S STORE

The retailer is called upon for many types of service. Consumers want to choose from a large variety of sizes and qualities, and they want a constant fresh supply. They patronize a store in a convenient location, which usually means that it pays a high rental. They often seek credit, the delivery of their purchases, and prompt service even in rush periods. The retailer must have an adequate and efficient sales force. He is constantly faced with the liability of loss from wastage and spoilage of perishable commodities. A considerable portion of the price paid by the consumer of fruits and vegetables goes to maintain the required services and to take care of the risks that naturally accompany a retail business.

A wide spread or difference between the price paid by the consumer and that received by the grower seems to be inevitable when consideration is given to the services—packing, loading, freight and refrigeration, hauling, commission, reconditioning, retailing, etc.—all incident to the movement of produce from the producers to the consumers and all of which are finally paid for by the consumers unless someone works for nothing or sells for less than he paid.

When making a selection from a display of fruits and vegetables the housewife subconsciously asks: What is best? She would like to choose according to her personal preference, but personal preference is often subordinated to price. Buying on personal inspection is profitable to the discriminating buyer. If one is familiar with the factors that affect eating quality and those that affect appearance only, selections can often be made which not only suit the personal preference but also prove to be economical. Generally speaking, the excessive waste in preparation, and the inferior quality of wilted, decayed, immature, or overripe products are such as to make the best quality the least expensive in the end.

The selection of fruits and vegetables in good condition and of desirable flavor merely by casual examination as they are displayed for sale is in many cases a job for an expert. There is no set rule. Experience is the most reliable guide. There are, however, certain details which, if observed, may aid the housewife in learning to judge the real value of fruits and vegetables.

General Hints Well Worth Following

Make your own selection of perishables.—Personal inspection and selection of fruits and vegetables for the purposes in mind tend to greater satisfaction and economy.

Do not handle fruits and vegetables unnecessarily.—Rough handling of fruits and vegetables when buying causes spoilage, for which the consumers ultimately pay, because the retailer must sell at a price that is high enough to cover such loss. If it is necessary to handle a fruit or vegetable to learn its quality or condition, the handling should be done in such a way that the specimen will not be injured.

Remember the largest is not always the best.—Large-sized fruits and vegetables are not always of the best quality nor are they always economical to buy. To pick out the largest apples, for instance, is not always wise. They may

appear to be bargains, but they may be entirely unsuited for the purpose for which they are used.

Avoid commodities that show decay.—It is preferable to avoid commodities that show decay, particularly if they are not intended for immediate consumption. It may sometimes be desirable to buy such stock if it does not appear too wasty; usually slightly decayed stock can be bought at a low price, but the purchase may not prove to be cheap if the waste offsets the reduction in price.

Do not buy merely because the price is low.—It seldom pays to buy perishables just because the price is extremely low unless one's judgment of quality and condition can be relied upon. "Bargains" are sometimes offered, but it is well to find out why they are called bargains. If the prices are low because of an overabundance of the commodity it is possible that the quality offered at the low price constitutes a bargain.

Consider the fruits and vegetables that are in season in the nearest production area.—Fruits and vegetables that are locally grown are usually comparatively low in price. At that time there is generally an abundant supply from the nearby producing centers which is frequently increased by shipments from more distant producing points. But in some instances and in some places, as with peaches and strawberries in the East, the price may not be lowest at this time. A knowledge of what is produced in the nearest growing area and when it is in abundance aids in estimating what may be expected in market prices. Such knowledge is especially useful when planning to can or preserve certain commodities.

See that containers hold full measure.—Small fruits and sometimes small vegetables are sold by measure in certain types of containers. Frequently these containers are repacked, sometimes so loosely that the container does not hold the quantity it should. Containers are often faced or plated with the best specimens in order to present a good appearance to the purchaser, although the condition of the commodity as a whole may be poor. Watch for full measure and see that the stock is good throughout.

Study the markets.—Information regarding the current market prices and the available supply in the larger cities can readily be obtained through the daily market column found in the newspapers and through the daily market news broadcast over the radio. A knowledge of the supply and prices should aid the housewife in securing value for the money she spends.

Distinguish between blemishes that affect appearance and those that affect eating quality.—Usually higher grades of fresh fruits and vegetables are free or practically free from blemishes, but the blemishes may be present to a greater or less extent on those of lower grade. Sooty, blotched, or fly-specked apples; dirty potatoes or those with growth cracks; cabbage with a few of the outer leaves yellowed or spotted, are typical examples of the many forms of surface blemish. Such blemishes can usually be removed in the normal preparation for use.

Hints on Buying Fruits

Aside from the price, the average consumer's choice of any particular kind of fruit is influenced by appearance and quality. In many respects, appearance and quality are closely associated, and many think that fine appearance always signifies fine quality. This is not always true. Often a fruit with a very attractive appearance may have poor quality because of a varietal characteristic or because of some internal condition such as over-

maturity. It is likewise true that a fruit with a very poor appearance caused by surface blemishes may have very fine eating quality. Appearance, therefore, does not always signify quality.

APPLES

There are many commercial varieties of apples, each variety being better suited for certain purposes than for others. A few varieties are excellent for baking; others are good for dessert or for general culinary purposes.

Apples for dessert should be of medium size and of good color for the variety. Tart or slightly acid fruit is best for general cooking purposes, and varieties like Rome Beauty and Rhode Island Greening are excellent for baking.

Medium-sized apples packing 113 to 138 to the standard northwestern box or measuring $2\frac{1}{2}$ to $2\frac{3}{4}$ inches in diameter are usually most desirable for general use; those that pack 96-88, or fewer, to the box are the best sizes for baking.

Whether the apples are packed in boxes or baskets, the degree of color and amount of blemish depends upon the requirements of the grade under which the apples are packed. Boxes are marked to indicate the grade, variety, and number of apples they contain. Most of the boxed apples come from the Western States, but many come from the East as boxes are being used more and more for packing eastern-grown apples.

Western boxed apples are packed either as Extra Fancy, Fancy, or C Grade, or as a combination of any of these grades. The quantity of C grade fruit, which is the poorest of the three grades, is small in proportion to the other two grades. Most of it is sold in the markets west of the Mississippi River. A relatively small quantity reaches the eastern markets.

Apples from States east of the Rocky Mountains are usually packed in baskets, eastern-type apple boxes of various sizes, and the standard northwestern boxes, and are mostly graded on the basis of the United States grades. Those packed in boxes without a numerical count usually vary in size in the individual container to a greater degree than do those packed in boxes with a numerical count.

Baskets and eastern-type boxes without a numerical count are marked to show the grade, variety, and the diameter of the smallest apples they contain or with a size range, as "U. S. No. 1 Stayman, $2\frac{1}{4}$ inches minimum" or "U. S. No. 1, Stayman, $2\frac{1}{4}$ to $2\frac{3}{4}$ inches."

Apples are sold by the unit, by weight, or by original container. Selling by measure is still practiced in some sections, but is being rapidly displaced by the more satisfactory method of selling by weight.

Apples keep longer than do most fruits, and for this reason may well be bought in quantity and kept for future use. Some varieties have better keeping qualities than others, and each is in its prime at a certain season of the year. When purchasing in quantity, it is well to keep this in mind. It is not unusual for a housewife who is unfamiliar with varieties to buy apples that are unsuited to her purpose. It would be profitable for the housewife to be able to identify a few of the important commercial varieties, and to know their characteristic qualities. If she is unfamiliar with varieties, it is well to sample before buying in quantity.

Table 3 presents some of the common commercial varieties, with descriptions and indications of their main market seasons and the uses to which they are best adapted.

TABLE 3.—*Some commercial varieties of apples, their main market season, characterization, and use*

Variety	Main market season	Usual size	Characterization		Use
			Color	Flesh	
Yellow Transparent.	July-August.....	Small to medium.	Greenish white to greenish yellow.....	White; juicy, sharply acid till fully ripe; pleasant but not high flavor. Quality fair to good.	Cooking; acceptable as dessert. Dessert, cooking, and general.
Gravenstein.....	July-September.....	Medium to large.	Yellow with red stripes. Attractive color effect is caused by greenish to orange-yellow colored skin being overlaid with broken stripes of light or dark red.	Yellowish; juicy, slightly acid; firm, crisp, aromatic. Quality good to very good.	Baking and cooking.
Oldenburg (Duchess of Oldenburg).	July-October	Medium.....	Red striped. Attractive color effect caused by pale-yellow or greenish-yellow skin being almost covered with irregular splotches and stripes of bright red mottled and shaded with crimson.	Tinged with yellow; juicy, too acid for dessert; rather firm, crisp; tender. Quality fair to good.	Dessert and general.
Williams (Williams Early Red).	August-September	Medium.....	Bright red. The pale-yellow skin is overlaid with bright red and distinctly striped with dark red or crimson.	Sometimes tinged with red; rather juicy; dry when overripe; pleasantly acid, firm, moderately crisp, aromatic, mild agreeable flavor. Quality fair to good.	Cooking and dessert.
Star.....	August-September.	Large.....	Green or yellowish, sometimes faintly blushed.	Tinged with yellow; very juicy, sharply acid; very tender, aromatic. Quality good to very good.	Cooking and dessert.
Maiden Blush.....	August-November.	Medium.....	Pale, waxy, lemon yellow with crimson check.	White or slightly yellow tinged; slightly acid, moderately crisp. Quality fair to good.	Cooking and general.
Wealthy.....	August-Decem-ber.	Medium.....	Bright red when fully colored. Marked with splashes and narrow stripes of red over a pale-yellow or greenish skin.	Whitish, sometimes stained with red; very juicy, crisp. Quality good to very good.	Cooking and general.

Twenty Ounce.....	September–November.	Large.....	Red striped. The skin is greenish to yellow, and is washed, mortled, and splashed with bright to dark or purplish red with carmine stripe.	Whitish, sometimes tinged with yellow; juicy, slightly acid, coarse. Quality fair to good.	Cooking.
King David.....	October–November.	Medium.....	Solid very dark red.....	White or somewhat yellow; juicy, slightly acid; firm, crisp, aromatic. Quality fair to good.	Dessert and general.
Winter Banana.....	October–December.	Large.....	Clear pale yellow with pinkish-red blush.	White tinged with pale yellow; juicy; aromatic. Quality fair to good.	Dessert and general.
Fameuse (Snow).....	October–December.	Small.....	Red striped. Light bright red deepening to almost purplish black when well colored.	White, sometimes streaked or stained with red; juicy, very mildly acid, very tender, aromatic. Excellent flavor. Quality good to very good.	Dessert.
Hubbardston.....	October–January ..	Medium to large.	Yellow mingled with more or less red. The yellow or greenish skin is blushed and mortled with red which varies from a dull brownish to clear bright red and is more or less marked with deep carmine.	Whitish, slightly tinged with yellow; juicy, slightly acid; fairly firm, fairly crisp, tender, aromatic. Quality good to very good.	Dessert and general.
McIntosh.....	October–January ..	Medium to large.	Bright deep red, striped with carmine. Highly colored specimens become dark, almost purplish, red overspread with thin lilac bloom.	White, sometimes veined with red; juicy, slightly acid, becoming mild and nearly sweet when very ripe; firm, crisp, fine, aromatic. Quality very good to excellent.	Dessert, baking, and general.
Grimes Golden.....	October–January ..	Small to medium.	Deep clear yellow with pale-yellow or russet dots.	White; moderately juicy; very firm, crisp, tender, rich, aromatic. Quality very good to excellent.	Dessert and general.
York Imperial.....	October–February.	Medium to large.	Light or purplish red over yellow ground, indistinctly striped with carmine. Generally lopsided.	Yellowish; slightly acid, but becomes rather flat at end of season; firm, crisp, coarse. Quality fair to good.	Cooking and general.
Jonathan.....	October–February.	Small to medium.	Lively deep red. The bright yellow-colored skin is overlaid with a lively red and is striped with carmine.	Whitish or somewhat yellow, sometimes tinged with red; juicy, slightly acid; firm, crisp, very aromatic, highly flavored. Quality very good to excellent.	Dessert and general.
Rhode Island Greening.	October–March ..	Medium to large.	Green or yellowish; sometimes has a brownish-red blush.	Yellowish; juicy, slightly acid; firm, crisp, tender, rich. Quality good to very good.	Cooking and general.

TABLE 3.—*Some commercial varieties of apples, their main market season, characterization, and use—Continued*

Variety	Main market season	Usual size	Characterization		Use
			Color	Flesh	
Northwestern Greening.	October-March...	Large.....	Greenish until fully ripe.....	Yellow tinged; juicy; medium in firmness and crispness. Quality fair to good.	Cooking.
Northern Spy.....	October-March...	Large to very large.	Bright striped red. The clear pale-yellow skin is nearly concealed with bright pinkish red, mottled and splashed with carmine, and overspread with a thin delicate bloom.	Yellowish white; very juicy; rather firm, crisp; very tender, aromatic. Quality very good to excellent.	Dessert and general.
Delicious.....	October-April...	Medium to large.	Red striped. The yellow-colored skin is covered by a light red and is striped and washed with a dark red. Bright, light red with some contrasting, yellow. The skin is bright pinkish red striped with bright carmine over a clear pale-yellow background.	Yellowish white; juicy, very mildly acid; firm, tender, aromatic. Quality very good to excellent.	Desert.
Wagner.....	November-January.	Medium.....	Medium to very large.	Whitish with yellow tinge; very juicy, slightly acid; moderately firm, crisp, tender. Quality good to very good.	Dessert and general.
Tompkins King (King).	November-February.	Large to very large.	Attractive red over yellow. The fine yellow-colored skin is washed and mottled with orange-red, striped and splashed with bright carmine, and covered with rather numerous white or russet dots.	Yellowish; juicy, slightly acid; crisp, tender, rather coarse, aromatic. Quality very good to excellent.	Dessert and general.
Stayman Winesap (Stayman).	November-April...	Medium to large.	Dull mixed red rather indistinctly striped with dull carmine. Often covered with rather conspicuous light-gray or russet dots.	White, tinged with yellow, juicy, slightly acid; firm, moderately crisp, aromatic. Quality very good to excellent.	Dessert, baking, and general.
Baldwin.....	November-April...	Medium to large.	Bright red. The light-yellow or greenish skin is blushed and mottled with bright red, indistinctly striped with carmine, and covered with a scattering of conspicuous gray or whitish dots.	Yellowish; Juicy, mildly acid; firm, crisp, rather tender. Quality good to very good.	Dessert and general.

Rome Beauty (Rome).	November-May...	Large.....	Nearly white with slight yellow or greenish tinge; juicy, mildly acid; rather crisp, moderately fine grained. Quality fair to good.	Baking and cooking.
Arkansas Black....	November-May...	Medium.....	Lively red, deepening to purplish red or nearly black.	Cooking.
Arkansas (Mammoth Black Twig).	November-May...	Medium to large.	Dull deep red. The dull green skin, often becoming a deep yellow, is largely overspread with a dull red, obscurely striped with darker red.	Baking and cooking.
Ben Davis.....	November-May...	Medium to large.	Bright deep red or red striped. The clear yellow or greenish mottled skin is mottled and washed with bright red, striped and splashed with carmine.	Cooking.
Gano (Black Ben Davis).	November-May...	Medium.....	Nearly solid red, sometimes with indistinct stripes of light purplish red.	Cooking.
White Pearmain (White Winter Pearmain).	December-March.	Medium to large.	Yellow or green, sometimes slightly blushed, and striped with thin brownish red or brownish pink. Has numerous pale or russet dots.	Dessert and general.
Stark.....	December-May...	Medium to large; sometimes very large.	Dull green and red, more or less indistinctly striped with darker red.	Cooking.
Winesap.....	January-May....	Small to medium.	Bright deep red, indistinctly striped with dark purplish red overspread with a faint bloom and marked with small scattered whitish dots.	Dessert and general.
Yellow Newtown (Albemarle Pippin).	January-May....	Medium to large.	Greenish yellow to yellow, often showing slight brownish or brownish-pink color.	Dessert and general.
Missouri Pippin.....	January-May....	Medium.....	Red, with indistinct striping and covered with grayish bloom.	Cooking.

The market supply of apples comes from many distant States as well as from nearby districts. The largest shipments are made from Washington, New York, Virginia, Idaho, California, and Oregon. The Gravenstein is the only California apple found generally throughout eastern markets. It is a late-summer and early-fall apple.

QUALITY

Firm apples of good color and flavor are desirable. Flavor is a varietal characteristic which is influenced by the stage of maturity at which the fruit was picked and the conditions under which it was kept, but apples that are well colored for the variety usually have the full flavor of that particular variety well developed.

Immature apples often lack color, are usually poor in flavor, and sometimes have a shriveled appearance after having been in storage. Overripe apples yield to slight pressure, and the flesh is often soft and mealy and lacking in flavor. The larger apples are more likely to be overripe than are the small or medium-sized fruits, particularly toward the end of the late-apple season.

From the middle of December to the end of the season, apples that have a brown-tinted irregular area on the surface are found on the market. This defect is known as "scald"—a storage and transportation disease caused by gases given off by the apples themselves. It is more prevalent on green than on highly colored apples.

In mild cases scald merely causes a brown tinting of the skin, the quality of the fruit being but slightly affected. In severe cases, the affected area of the skin is dark brown in color, and decay may be evident. The quality of the fruit is seriously affected and is undesirable.

Scald is less likely to be found on boxed apples that are wrapped in oiled paper than on such apples wrapped in plain paper. Apples packed in baskets or boxes with shredded oiled paper as a packing material are less likely to be affected than those not so packed. The oil in the paper absorbs the gases given off by the apples and thus reduces and in most cases prevents damage by scald.

Sometimes the flesh of apples is mealy or brown; this condition is known as internal break-down. Such apples are usually wasty and should be avoided. This condition is not always apparent on the surface, but the soft mealy condition of the flesh causes it to yield to pressure. Internal break-down may be due to various causes—overripeness, delay in placing in storage, holding too long in storage or unfavorable storage conditions, etc. Summer and fall varieties are more or less susceptible to this defect, particularly at the end of their seasons.

Apples that have been slightly frozen and have received no other injury will usually recover their healthy condition. Their qualities as food are not affected, but their keeping qualities are somewhat impaired.

When apples have been severely injured by freezing or bruising, the skin appears brown and water-soaked and is often tough and leathery because of the thick layer of flesh adhering to it. The flesh is brown at point of injury and may be either dry and mealy, or watery and mushy, depending on the severity of the injury.

Severely frozen apples do not recover their earlier healthy condition; they continue to deteriorate, and in addition they are very susceptible to decay organisms.

There are other defects, such as decay and insect and mechanical injuries, that affect the quality of apples in varying degrees. Most of the apples

now offered for sale are packed to comply with either a Federal or State grade. For this reason, it is somewhat unusual to find commercially packed apples that are seriously defective offered for sale, with the exception of the defects which may be the result of natural deterioration. In buying, selection should be based on the intended use and the amount of waste involved in their preparation for that use.

APRICOTS

Usually apricots are picked when slightly immature in order that they may reach the market in good condition.

The finest quality and best flavor are found only in fruits that have ripened on the tree. Because of their extreme perishability, such fruits are difficult to ship. They are found usually only in markets adjacent to the district in which they are grown.

Apricots are in season the country over during June, July, and August. They are shipped mainly from California, Oregon, and Washington.

Generally the numerical count or minimum diameter of the fruit is marked on the package. Usually when the 4-basket crate is used, it is marked to indicate the number of rows of fruit each way in the basket, as 4-4, 4-5, 5-5, 5-6, 6-6. There are rarely more than three layers of fruit in the basket.

QUALITY

Well-matured apricots are plump, fairly firm, and a uniformly golden-yellowish color. The flesh is juicy. Usually such fruits are of good flavor.

Immature apricots are usually greenish yellow in color, the flesh is firm to hard and by the time they get to market more or less shriveling is evident. The typical apricot flavor is lacking.

Apricots are very perishable. Fruits that have been bruised or injured deteriorate so quickly that they should be avoided by the housewife. The beginning of decay is usually indicated by softness verging almost to mushiness and a dull, practically dead appearance. Sometimes a shrunken or shriveled condition is evident. The flavor of such fruit is likely to be somewhat insipid.

AVOCADOS OR ALLIGATOR PEARS

The avocado is known as "the salad fruit of the tropics." The fruits vary greatly in shape, size, color, and appearance. The shape may vary from spherical to pear or bottle shape. In size they may range from 5 to 6 ounces to 2 or 3 pounds. The skin may be almost paper thin and relatively smooth, or it may be thick and smooth, or it may be leathery, rough, and shell-like. In color the fruits may vary from green to a dark mahogany or almost black. No constant relation has been found between color and flavor or between color and texture of flesh. They should not be kept in refrigerators unless they are ripe.

The relatively smooth, thin-skinned sorts are more attractive, but the rougher thicker-skinned sorts are as desirable so far as quality and flavor of the flesh are concerned.

Avocados are ready for eating when the flesh is as soft as a ripe pear. The flesh should not be so soft as to be mushy or discolored; this condition can be detected by a gentle pressure of the hand. The thin-skinned sorts

yield readily when ready for eating, whereas the thick-skinned fruits yield only slightly.

The softening of firm avocados may be hastened by keeping the fruit for 2 or 3 days in a warm humid place. Softening may be retarded by keeping the fruit in a cool dry place at a temperature not below 42° F. Exposed to the average summer temperature, firm avocados will soften in 4 to 5 days.

California and Florida are the main sources of supply, supplemental shipments being received from Cuba and the West Indies. The season extends practically throughout the year, but the fruits are most plentiful during the fall and winter.

QUALITY

Heavy, medium-sized avocados which have a bright fresh appearance and which are fairly firm or are just beginning to soften, usually are the most desirable. After a little practice the "feel" of the fruit will indicate this condition. The texture of the flesh should be soft, buttery, or marrow-like; such fruit usually has a high oil content and a rich, delicate, nutlike flavor. Avocados that do not have a buttery smoothness of the flesh may have a flat watery taste.

Avocados that have all the characteristics of quality except softness may well be bought and laid aside until they become soft enough for use.

Avocados are easily bruised and injured. Bruising not only mars the appearance of the fruit but also affects the quality of the flesh. Bruised fruit should be avoided.

The appearance of avocados is sometimes marred by a light-brown irregular marking known as scab. This is a superficial defect of the skin and does not affect the quality of the flesh.

Decay can be detected by dark sunken spots, which sometimes merge to form irregular patches the surfaces of which are deeply cracked or broken. The flesh beneath these spots may be decayed.

Avocados that have had the skin broken or punctured should be carefully examined since such injuries provide ready entrance for decay organisms and the flesh beneath the injury may be affected.

BANANAS

Bananas are one of the few fruits that reach their best quality and flavor after being harvested in the green state. If allowed to ripen on the plant, the fruit is insipid and of poor flavor.

For immediate consumption full-ripe fruit should be bought; full-ripe bananas are frequently cheaper than those in the partly ripe or yellow-ripe stage.

For use over a period of a few days or for cooking purposes, the partly ripe or yellow-ripe fruit should be purchased. If the fruit is kept at a warm room temperature, ripening will proceed.

A banana is said to be "full" when the individual fruit is plump or well-developed; a banana is said to be "thin" when it is poorly developed.

QUALITY

With bananas, ripeness is indicated by the color of the skin. The fruit is of a green color when shipped to market, where it is ripened in storage rooms, and takes on a yellow or red color depending upon variety. Good eating quality is indicated when the solid red or yellow color of the banana is tinted with brown and flecked with small brown specks. At this stage,

the flesh is mellow and the flavor fully developed. Bananas with tips still green or those which are of a solid yellow or red color from stem to tip have not developed their full quality for eating, but they are good for cooking.

A plump, well-filled-out banana is likely to have been somewhat more mature when removed from the plant, and consequently, is likely to be of higher quality.

There are several commercial varieties of bananas differing in minor characteristics, but from the consumer's viewpoint there are but two kinds—yellow and red. The red banana, although of fine quality and flavor, is not so popular as the yellow fruit.

Poor condition is indicated by a badly discolored skin and a soft, mushy, sometimes discolored flesh. In some instances, the skin may be entirely brown or almost blackened, and yet the flesh may still be in prime eating condition if it is fairly firm and not discolored.

Bruised fruit is not desirable; it is wasty and will keep for only a short time. Bruises are indicated by dark or blackened areas of the skin.

Decay is often indicated by the presence of mold on the darkened skins.

Bananas that have become too cold will not ripen properly, will not develop the bright yellow color of prime fruit, and will usually be of poor flavor.

BLACKBERRIES, DEWBERRIES, LOGANBERRIES, AND RASPBERRIES

QUALITY

Quality in this group of fruits is indicated by a bright, clean, fresh appearance combined with a solid full color and a plumpness of the individual berry. Good berries should be free from dirt, trash, moisture, and adhering caps.

Overripe berries usually are very dull in color, are soft, and sometimes leaky. Such fruit is wasty and is not always desirable.

Natural break-down, decay, bruising, and crushing, may cause berries to be soft and leaky.

Wet or leaky berries should be avoided. A leaky condition is indicated by stained containers and by the general appearance of the fruit. Sometimes the stains on the containers are plainly evident, but at other times they are not seen until the container is tilted so that the side is exposed. Leaky, soft, or damaged berries are not always seen in a casual examination for they may be at the bottom or in the center of the container.

Decay can be easily detected by the presence of molds on the surface of the berries.

Berries with the caps attached may be immature. Usually caps adhere firmly to immature fruits but not to mature fruit.

A berry that has a number of cells or drupelets that are green or off-color when the rest are of the normal ripe color will not have as good flavor as one the cells of which are all the normal ripe color.

BLUEBERRIES AND HUCKLEBERRIES

QUALITY

Blueberries and huckleberries that are plump, of fresh appearance, clean, dry, and free from leaves and trash, and fairly uniform in size, and of a deep, full, color throughout the lot, are usually of good quality.

Ripeness is indicated by the color which may be blue, black, bluish-black, or purplish. The berries may be covered with more or less bloom depending on the variety. Generally the distinction between blueberries and huckleberries is on the basis of the seed. Blueberries have small inconspicuous seeds and huckleberries have very prominent seeds which make them less desirable for consumption.

Decay is usually indicated by the presence of molds.

Freedom from moisture is essential to good-quality berries. Moisture may be caused by natural break-down, decay, or some form of mechanical injury. It should be looked for carefully.

Overripe fruit has a dull, lifeless appearance and is often soft and watery. Berries held long after picking have a similar appearance and may be more or less shriveled.

CHERRIES

Sweet cherries are grown mostly in the Western States, but they are grown to some extent in the Eastern States. The important varieties are: (Light-fleshed) Napoleon, (Royal Ann); (dark-fleshed) Black Tartarian, Bing, Republican, Lambert, Windsor, and Schmidt.

Sour cherries are produced mostly in the Eastern and Great Lake States. The important varieties are: Montmorency, English Morello, and Early Richmond.

Sweet cherries are used primarily for eating fresh while sour cherries are used primarily for culinary purposes, including sauce and pie making.

The season extends from May through August.

QUALITY

Good quality in cherries is indicated by bright fresh appearance, plumpness, and good color. Well-matured cherries are plump, fairly firm, well colored for the variety, and juicy, and they usually have a well-developed flavor.

Immature cherries are usually smaller than the average ripe cherries found in the container. They are usually hard and of poor color; they lack juice and are likely to be very acid.

Overmature or stale fruits are generally soft and of a dull appearance. They may be more or less shriveled, and they may be leaky. Such fruit is wasteful and may prove to be costly. A close examination should be made for worm injury.

Decay in the form of small, brown, circular spots is sometimes found; wherever possible it should be avoided. Decay or other damage is often indicated by damp, stained, and leaky boxes.

Cherries that have been bruised or otherwise mechanically injured are not desirable. The quality may be affected through molds which develop readily at the point of injury.

CRANBERRIES

Cranberries vary in size and color according to the variety. They are rarely sold to the consumer under variety name. The most common on the markets are the rather large bright-red fruit and the small darker kinds which are somewhat sweeter.

Cranberries are generally sold by weight. They are on the market from fall until the end of the winter.

QUALITY

A fresh, plump appearance, combined with high luster and firmness, indicates good quality in cranberries. Poor quality and condition is indicated by shriveling, dull appearance, and softness.

Regardless of how sound the cranberries may be, they will show more or less moisture shortly after removal from cold storage. Such dampness does not indicate poor quality and soon disappears, but cranberries that show moisture caused by injury or damage are usually sticky, leathery, or tough, and the flesh may be discolored.

FIGS (FRESH)

Figs are produced mainly in California, the Southeastern States, and Texas. Because of their highly perishable nature, only a small percentage of those produced are shipped fresh.

Important varieties grown in the Southeastern States are: Brown Turkey, Brunswick, Celeste, and Magnolia. Lob Inger, Kadota, Mission, and Adriatic are the important varieties grown in California.

QUALITY

Fresh figs must be fully ripe to be of good quality. A ripe fig is fairly soft or soft to the touch, and will vary in color from a greenish yellow to purplish or almost a black, depending on variety. Varieties vary in size; therefore size cannot be used as a means of judging the maturity.

Ripe figs sour and begin to ferment quickly, and fermentation proceeds rapidly. A characteristic odor is noticeable when figs begin to sour.

Bruised or mechanically injured fruit should be avoided, for such fruit breaks down very quickly.

GRAPEFRUIT

Grapefruit is received on the markets from Florida, Texas, California, Arizona, Puerto Rico, and Cuba, including the Isle of Pines.

Grapefruit often has a discolored appearance caused by the normal yellow color being overcast by a reddish-brown or reddish-yellow color. Such discoloration is known as "russetting."

Grapefruit is called "bright" when the surface of the fruit shows very little russetting, and "russet" when most of the surface of the fruit shows considerable russetting.

The choice between fruits showing varying amounts of russetting is a matter of personal preference. In most markets the russets are cheaper, but a few markets pay a premium for such fruit. Russetting does not affect the flavor.

QUALITY

Grapefruits of good quality are firm, but springy to the touch; not soft, wilted, or flabby. They are well-shaped, and heavy for their size. Fruits heavy for their size are usually thin-skinned and contain more juice than those that have a coarse skin or are puffy or spongy.

Generally speaking, most of the defects found on the grapefruit in the markets (such as scale, scars, thorn scratches, and discoloration) are minor in nature; they affect appearance only and not eating quality.

Decay is sometimes evident and should be avoided since it usually affects the flavor, making the taste flat and somewhat bitter. Decay sometimes

appears as a soft, discolored area on the peel at the stem end or "button" of the fruit; or it may appear in the form of a water-soaked area, much of the natural yellow color within the area being lost, and the peel being so soft and tender that it breaks easily on pressure of the finger.

Sometimes a fruit is somewhat pointed at the stem end; it is likely to be thick-skinned particularly if the skin is rough, ridged, or wrinkled. Judgment in selecting this kind of fruit should be based on weight for size.

GRAPES

Grapes usually found in the market are of two very distinct types—the American, grown mainly in the Eastern and Central States, and the European or vinifera, grown chiefly in California. The muscadine type is grown in the South Atlantic and Gulf States but is not shipped to any extent.

Western grapes usually have a higher sugar and solids content, and in many cases are larger than the eastern type. The skin and pulp of the western type do not separate, but the seeds separate readily from the pulp. Some varieties of western grapes were planted for table use and others for juice. The more popular varieties of western table grapes are: Flame Tokay, Red Malaga, Malaga, Emperor, Ribier, Cornichon, and Sultanina (Thompson Seedless).

The western grapes are shipped largely from California.

Eastern grapes are sold indiscriminately for both table and juice purposes. The eastern type is shipped from many sources, but the largest supplies are received from New York, Michigan, and Pennsylvania. The most common varieties are Concord, Catawba, Moore Early, Worden, Niagara, and Delaware. The Concord is used most extensively for juice purposes.

QUALITY

To be of good quality, table grapes should have a general appearance of freshness. They should be mature, and the individual berries should be firmly attached to the stems. Mature grapes are usually plump.

High color for the variety is generally indicative of a well-developed sugar content and flavor.

Usually the white or green grapes of both American and European types are at their best for flavor and sweetness when they are turning to an amber color. A few good varieties of American grapes, however, remain green in color when fully ripe.

For juice purposes maturity is the most important factor of quality. No consideration need be given to compactness of the bunches or shattering of the berries from the stems provided the berries are not shriveled or dried.

A few small, sunburned, wrinkled, raisined, or unripened berries do not affect the flavor or quality of the bunch as a whole, but they do detract from its appearance.

Bunches of grapes that have dry and brittle stems usually shatter badly. A gentle shaking of a bunch will reveal the condition of the stem.

Grapes that have been injured by freezing have a rather flat flavor and therefore are not so desirable as those that have not been frozen.

Western or California (Old World or vinifera) grapes injured by freezing have a dull, dead appearance; they become sticky, and the berries shatter readily. When the berries are pulled from the cap stem, the brush (the small bundle of fibers that extends from the cap stem into the berry) is somewhat discolored and is shorter than normal.

Eastern or native-type grapes injured by freezing are shriveled and usually show a milky, opaque condition of the pulp. If the berry is pulled from the cap stem the brush usually remains in the berry.

Decay is indicated by mold, wet berries, and frequently by leaky and stained containers. Sometimes evidence of decay can be found on the berries at the stem.

LEMONS

California produces most of the lemons grown in this country. During recent years a few have been shipped from Texas, Arizona, and Florida. In addition to the domestic supply, some few are imported from Italy. The California lemon is usually larger and smoother than the Italian.

QUALITY

Lemons that have a fine-textured skin and are heavy for their size are generally of better quality than those that are coarse-skinned and light in weight. Deep-yellow-colored lemons are usually relatively mature and are not so acid as those of the lighter or greenish-yellow color; they are also generally thinner skinned and may have a relatively larger proportion of juice but they are not so desirable since lemons are wanted for their acid flavor.

When present, decay appears either as a mold or as a discolored soft area at the stem end. Fruits that have been mechanically injured are more or less subject to molds.

Shriveled or hard-skinned fruits, or those which are soft or spongy to the touch are not desirable. They may be aged, dried out, mechanically injured, or affected by a rot at the center of the fruit.

LIMES

QUALITY

Limes that are green in color and heavy for their size are the most desirable. Deep-yellow-colored fruits do not have the desired acidity.

Decay and mold may affect limes in the same manner that they affect lemons.

Limes often become spotted with purple-to-brown-colored and irregular-shaped spots. Sometimes the whole fruit turns brown. This is the result of a defect known as scald. Such fruit has a poor appearance and brings a lower price than sound fruit, but in many cases the flesh is unaffected, although occasionally a tainted, moldy taste can be detected immediately below the spots.

ORANGES

The most desirable sizes of round oranges are those that range from 126 to 216 per box, but those that pack 176 to 200 per box are good sizes and are preferred by the average family.

Of the tangerine types, those that pack 144 to 168 or 196 to the box are the most desirable.

The oranges from California, Florida, Texas, and Arizona, constitute by far the greater part of the market supply. Some importations are received as well as shipments from Alabama, Mississippi, and Louisiana.

The leading varieties shipped from California are the Washington and the Thompson Navel and the Valencia.

The Navel season begins in November and continues to about May, when the Valencia season starts and continues throughout the summer and fall.

The greatest supply of Valencias begins in June and continues to about July, when it slackens; the supply grows heavier again in September, continuing until about November.

Parson Brown is the principal early variety in Florida. It is in season during October and early November. The Pineapple orange is the mid-season fruit, being in season from January through February or to the middle of March. The Valencia is the late Florida orange and is in season from early March through May. Large quantities of seedling oranges are produced in Florida. These oranges, aside from their seediness, are of good juice content and flavor.

Tangerines, satsumas, King, and mandarin types and varieties come chiefly from the Gulf States.

The California orange is usually of a deeper color than the Florida fruit.

The Valencia has from 1 to 5 or 6 seeds, whereas the Washington Navels are seedless. Generally the skins of the Washington and Thompson Navels are thicker and may be rougher than the skin of the Valencia, and the segments are more easily separated.

Florida and Texas oranges are often designated as "bright," or "russet," depending upon the extent of the russetting or discoloration of the surface. The russetting does not affect the flavor. California oranges are not subject to russetting.

Oranges are received in bulk on many markets, many bulk oranges being shipped by motortruck. Frequently considerable saving can be made by buying such fruit if the quality is suited to the use for which the fruit is intended.

All citrus fruits that are marketed in sacks or packed in boxes are first put through a mechanical washing and polishing process. This improves the appearance of the fruit, but does not improve the flavor. Many shippers in Florida and Texas artificially color the orange peel with a dye to make the fruit more attractive in appearance. This coloring has no effect on the eating quality and it is a harmless dye. The individual fruit so colored must be stamped: "Color added."

QUALITY

Oranges of the best quality are firm, heavy, have a fine-textured skin for the variety and are well-colored. Such fruits (even with a few surface blemishes, such as scars, scratches, and slight discolorations) are much to be preferred to oranges that have a badly creased skin, or are puffy or spongy, and light in weight.

Puffy oranges are likely to be light in weight, lacking in juice, and of generally poor quality. Exceptions occur in the tangerines (of which Dancy is the principal variety), satsumas, King, and mandarin types and varieties. These oranges are usually thin-skinned, and are usually oblate or decidedly flattened at the ends. The skin is easily removed; there is little coarse fibrous substance between the skin and the flesh, and the segments of the fruit separate readily. The flavor is distinctive; the aroma is pungent and pleasant. Because of the looseness of the skin these oranges are likely to feel puffy; therefore, judgment as to quality should be based mainly on weight for size and deep yellow or orange color of the skin.

The fruit is sound when shipped, but sometimes decay develops before the fruit reaches the consumer. When present, decay is usually in the form of soft areas on the surface of the fruit that appear to be water-soaked. These areas may be covered by a mold. In the early stages of development, the skin in the affected area may be so soft and tender that it breaks easily under pressure. Oranges that have been mechanically injured should be carefully examined. Decay may be present at the point of injury, and decay organisms may easily find entrance to the flesh of the fruit.

Wilted, or shriveled, or flabby fruit is sometimes found. Age or injury may cause these conditions. Oranges so affected are not desirable.

PEACHES

There are two classes of peaches—white-fleshed and yellow-fleshed. Both these classes have varieties that are clingstones and freestones. The freestone varieties of both classes are most popular for dessert, home canning, and general culinary use. The "clings" are not so popular for dessert but are used to some extent for slicing and home pickling. They are used chiefly for commercial canning.

Peaches for home canning should be firm and ripe. Generally, the yellow-fleshed midseason and late varieties are preferred. Sometimes personal preference calls for a white-fleshed variety.

QUALITY

Quality in peaches is indicated by the general appearance and firmness of the flesh. A peach of fine quality should be free from blemishes, should have a fresh appearance, a ground color that is either whitish or yellowish and sometimes combined with a red color or blush, depending on the variety. The red color or blush alone is not a true sign of maturity. The flesh should be firm or fairly firm.

Peaches are very perishable and for long-distance shipment are picked when slightly immature. They are sometimes picked when so immature that they cannot ripen. They may arrive on the market either too green or too ripe for immediate use. If the ground color is green and shows none of the mature whitish or yellow color, it is an indication that the fruit may be too immature to ripen satisfactorily. Immature peaches may develop a pale weak color and will shrivel, and generally the flesh becomes tough and rubbery and lacking in flavor.

Overmature or soft peaches should be avoided unless for immediate consumption. They bruise easily and soon break down.

Bruised fruit is wasty and undesirable. The outer skin of a bruise may not be discolored, but the bruised flesh is usually soft and discolored.

Worm injury may often be detected by the unevenness of the form of the peach, and the small punctures from which gum exudes. Generally a wormy peach has an appearance of premature ripeness and is usually softer than the average sound peach in the same container.

Decay usually appears in the form of brown circular spots of varying sizes; it spreads very rapidly, frequently causing the complete loss of the fruit.

Peaches that have growth cracks usually soften quickly and are wasty.

PEARS

The Bartlett, a midseason pear, is one of the leading dessert varieties and is used extensively for domestic and commercial canning.

Clapp Favorite, an early-season pear, Bosc, Comice, and Seckel mid-season pears, Anjou and Winter Nelis, late-season pears, are some of the varieties used for dessert purposes. In the greater part of the Central and Southern States none of these can be grown successfully because of pear blight. The coarser varieties—Keiffer, Garber, and Le Conte—are somewhat resistant to blight and furnish large supplies of cheap fruit of good size extensively used for canning, preserving, and fresh stewed fruit.

Pears are normally picked when slightly immature and are ripened in a cool dark place. The flesh of storage-ripened pears is usually of fine texture, while that of tree-ripened fruit is often coarse and in some varieties is gritty. In some of the large city markets wholesale dealers who specialize in pears have provided facilities for ripening pears under optimum conditions to obtain maximum eating quality before resale to retailers.

QUALITY

Pears that are firm or fairly firm, but not hard, free from blemish and clean, and not misshapen, wilted, or shriveled, are generally of good quality.

Some varieties are in prime condition while still a green or greenish-yellow color; others may be yellow and yet be too immature for eating.

Pears that are soft or that yield readily to pressure at the base of the stem are usually mature and ready for immediate consumption, but are too ripe to hold for future use.

Some varieties are affected by scald (see Apples p. 24) which in mild cases discolors the skin and superficially affects the flesh. In severe cases the fruit is badly discolored and unattractive, the flesh is seriously affected in quality, and it may be badly decayed.

Wilted or shriveled fruits are sometimes found on the markets. They may have been picked at such an immature stage that they will not ripen properly, or they may have been subjected to some form of injury. Such pears are usually of poor quality and lack flavor.

Pears that have a water-soaked appearance should be avoided as they are usually mushy and watery.

Pears are subject to a form of injury known as "limb rubs," caused by the pressure or rubbing of a tree limb while the fruit was in the course of development. This injury appears as a roughening on the surface of the fruit and causes hard, woody spots to form in the flesh just below the injury and sometimes causes the fruit to be misshapen.

PINEAPPLES

The only production of pineapples in continental United States is in Florida. Pineapples are imported from Puerto Rico, Cuba, Bermuda, Costa Rica, Mexico, and the Bahamas. They are picked in a slightly immature state so they will reach the markets in good condition.

QUALITY

Color and odor are the factors indicating quality in pineapples. A ripe pineapple in good condition has a fresh, clean appearance, and has a distinctive dark, orange-yellow color combined with a decidedly fragrant odor. The "eyes" are flat and almost hollow. Usually the heavier the fruit in proportion to its size the better the quality, provided the fruit is mature.

Pineapples picked when too immature will not ripen properly. Such fruit presents a dull, lifeless appearance and is often yellowish in color.

The "eyes" are poorly developed and often somewhat pointed, and the flavor is very acid.

Pineapples that have been bruised should be avoided if possible. The bruises show as discolored areas on the surface and, if the fruit is held for any length of time, will develop into soft spots and possibly decay. Fruits with such spots are usually very wasty.

Pineapples may lose moisture, particularly if held in a relatively dry atmosphere. The fruit remains firm as it dries out, if not affected by decay; but it shrinks in size, and the outer surface develops a poor and darkened color.

Decay, when present, appears as soft watery areas, sometimes almost black in color. Mold may be present. These areas are usually found at the base or around the "eyes" on the side of the fruit. Often a distinct sour odor is noticed. Decay is rapid and may soon cause the fruit to be worthless. Careful examination should be made for decay which may be indicated by the presence of moisture.

Pineapples are sometimes affected by sunburn, which usually causes the flesh beneath the affected area to be rather hard, pithy, and somewhat dry. The sunburned area is usually on the side of the fruit and is marked by a color that is lighter than normal. Sunburn is more often found on pineapples the tops or crowns of which have grown at a decided angle.

PLUMS AND PRUNES

The leading dessert varieties of prunes are: Agen or French and Italian Prunes. The leading dessert plums are: Beauty, Burbank, De Soto, Diamond, Duarte, Giant, Golden Drop, Jefferson, Kelsey, President, Reine Claude (Green Gage), Santa Rosa, Tragedy, and Wickson.

For culinary purposes the leading varieties are: Lombard, Golden Drop, Grand Duke, Italian Prune, and Reine Claude (Green Gage). Varieties of the damson type, because of their tart flavor, are especially desirable for jam and jelly making.

A prune is a variety of plum which is suited for drying purposes. Such plums can be dried without removal of the pit and without fermentation of the flesh. A ripe fresh prune can be separated from the pit like a free-stone peach, but a plum cannot be opened in this way. Ripe fresh prunes are superior for canning.

QUALITY

Plums and prunes of good quality are plump, clean, of fresh appearance, full colored for the variety, and soft enough to yield to slight pressure.

Unless the customer is well acquainted with varieties, color alone cannot be relied upon as an indication of ripeness. Some varieties are full ripe when the color is yellowish green; others when the color is purplish blue or black. A softening at the tip is generally a good indication that maturity has been reached.

Immature fruit is hard. It may be shriveled and is generally of poor color and flavor. Overmature fruit is generally soft, is easily bruised, and is often leaky. It is subject to decay and the flavor is usually insipid.

Plums and prunes are subject to practically the same defects as peaches.

Presence of moisture or a stained container is usually evidence of some form of injury—which may be a crushing of the fruit, a breaking down of overripe fruit, or some form of decay.

Sometimes plums and prunes are affected by sunburn. Sunburned fruit is usually of poor quality and flavor. This form of injury is usually indicated by a brownish or reddish-brown color on the cheek of the fruit.

Fruit that is shriveled usually has flesh of a leathery texture, and is generally poor in flavor.

Plums and prunes that have growth cracks should be examined carefully since these cracks, unless well healed, provide means by which decay organisms may enter the fruit.

QUINCES

Most of the quinces found on our markets are produced and sold locally, but some shipments are made from California and New York.

Most varieties of quinces have a heavy fuzz over the outer surface of the fruit. Usually this is rubbed off when the fruit is packed, and its general appearance thus improved. Sometimes this is not done, and in the later handling some of the fuzz is removed, leaving the fruit, even though it is of good quality, with a generally poor and often dirty appearance.

Quinces are in season in the fall and are usually sold by measure, for preserving, flavoring, and jelly making. Since the entire fruit including the core is used for jelly, wormy fruit causes great waste in trimmings.

QUALITY

Quinces of good quality are firm to hard, free from blemish, and of a greenish-yellow or golden-yellow color.

Immature quinces are hard and green, are very astringent, and when cooked they lack the peculiar quince flavor. Usually such fruit wilts and shrivels if kept for any length of time.

Quinces are easily bruised and are practically worthless when badly bruised because of the dark discoloration of the flesh.

Worm-injured fruit is wasty. The injury is often indicated by the presence of punctures in the skin.

Black sunken circular spots of varying sizes are sometimes found on quinces. Fruit so affected is wasty and usually of poor flavor.

STRAWBERRIES

Large strawberries, because of their size and generally attractive appearance, are preferred for dessert purposes, but size is no indication of flavor for that varies with the variety.

There are many varieties. Those grown locally or in nearby districts may be preferable, especially for canning and preserving.

QUALITY

Quality in strawberries is indicated by the general appearance. Strawberries should be of a fresh, clean, bright appearance, have a full solid red color, be free from moisture, dirt, and trash; and the cap should be attached. Small misshapen berries or nubbins usually are of poor quality and flavor, and often they have a small, hard, green area.

Overripe strawberries, or those that are not fresh, have a dull lusterless appearance, are sometimes shrunken, and are likely to be wet or leaky. Such berries are wasty. The presence of leaky or damaged strawberries is often indicated by a stained container.

Decay is easily detected through the presence of mold on the surface of the berries. It may be found anywhere in the container and is not always evident in the top layers.

Strawberries without the caps should be carefully examined. They may have been roughly handled, or they may be overmature. Such berries are likely to break down rapidly and be wasty.

Hints on Buying Vegetables

The changing food habits in the United States during the last 10 years have brought about an increased use of some fresh vegetables. Shipments of carrots increased from approximately 14,000 cars in 1936 to 27,000 in 1946; celery from 20,000 to 28,000; green corn from 1,000 to 3,000; lettuce and romaine from 50,000 to 75,000; onions from 32,000 to 35,000; and tomatoes from 25,000 to approximately 37,000 carloads. These figures speak for themselves and at the same time indicate the important place that fresh vegetables now occupy in the diet of the American people.

With the increased consumption has come a constant increase in the number of kinds so that the present-day markets display for sale many vegetables that are new or were little known in earlier years.

The modern market offers a practically constant year-round supply of so many kinds of vegetables, that the customer is often perplexed when trying to decide the kind and quality to buy.

ARTICHOKEs

Two very unlike vegetables are called artichoke—one known as the French or globe; the other known as the Jerusalem artichoke.

The French or globe artichoke is a plant allied to the thistle, the edible part of which is the large, unopened bud which, if not cut from the plant, opens into a flower. The globe artichoke is very perishable and becomes tough with age.

The Jerusalem artichoke is a type of plant related to the sunflower and grown for the thick potato-like underground tubers. These tubers, which constitute the edible part, are now little used except occasionally for pickling.

QUALITY

A compact, heavy, globular, plump globe or French artichoke, which yields slightly to pressure, and which has large, tightly clinging, fleshy leaf scales of a good green color, is the most desirable.

Freshness is indicated by the green color, which with age or injury becomes brownish.

Overmaturity is indicated when the artichoke is open or spreading; the center may be fuzzy and of a dark pink or purple color; the tips of the scales are hard. When cooked the flavor is strong and the scales are tough and woody.

Discolored artichokes are generally old or stale or may have been bruised. Bruises appear as dark-discolored areas at the point of injury, and they may be covered with mold. Discolored specimens will turn black when cooked. Worm injury occurs mainly at the base of the bud. The injury may appear very small from the outside but may extend deeply into the heart. Artichokes affected by any of these injuries are not desirable unless they can be trimmed without undue waste.

Size is not important as far as quality and flavor are concerned.

ASPARAGUS

Asparagus ages rapidly after it is cut; the tips spread and the stalks become tough and woody. Hence, to buy fresh stalks lessens the risk of buying tough asparagus.

Two kinds of asparagus are usually found in the markets, blanched, or white and green. Most of the canned asparagus is green but a considerable quantity is blanched and is packed mainly in California. The green is most popular and is seen most commonly.

Asparagus grows from root crowns which are covered with several inches of earth. The depth depends upon the kind of asparagus to be produced. The blanched or white is covered or ridged more deeply than the green. After the growing spear breaks through the ground, the tip turns rapidly from white to green. Blanched or white asparagus is usually cut as soon as the tips appear above ground and is cut deeply below the surface. Green asparagus is cut a few inches below the surface of the ground after the spear has developed the desired length above the ground. If growth is rapid, a green shoot, 6 to 10 inches long, may be obtained before any part of it has become tough. After a few inches of the tip are green, the white portion below the ground begins to toughen. Thus, spears that show 4 or 5 inches of green tip and an equal length of white butt have usually been cut well below the surface, and the white part may be tough or woody. Green asparagus should be green for almost its entire length. White or blanched asparagus is said to be somewhat milder in flavor than green asparagus.

Asparagus is usually sold by the bunch, but in some sections it is becoming customary to sell the stalks unbunched by weight.

QUALITY

Asparagus to be its best must be fresh, tender, and firm, with close, compact tips. A tender stalk is brittle and is easily punctured. A wilted appearance or a spreading tip is often an indication that considerable time has elapsed since cutting. Stalks of this type may or may not be freshened by placing in water. Usually they are wasty, only the tips being edible. Stalks that are angular in form are likely to be tough and stringy. The whole stalk, with the exception of an inch or two of the base, should be tender.

BEANS (FAVA OR FABA)

The fava or faba bean, known to some as the English broad bean, is practically a newcomer on many American markets. In general appearance it resembles our lima bean except that it is rounder and has a somewhat larger and thicker pod, and has a thicker and more globular-shaped bean with a thick tough skin.

The same factors that constitute quality in the lima, and the same factors of condition, should be looked for when buying these beans.

BEANS, LIMA (FRESH)

Lima beans may be divided into two general classes—the large "potato" type and the small "butter bean" type.

Most of the lima beans are shipped unshelled because shelled lima beans are very perishable. In some markets, it is customary to shell the beans just before offering them for sale.

QUALITY

The pods of the best unshelled lima beans should be well filled, clean, bright, fresh, and of dark-green color.

The shelled lima bean should be plump, with tender skin, and the skin should be of good green or greenish-white color.

Dried, shriveled, spotted, yellowed, or flabby pods of unshelled lima beans may be old or may be affected by disease. Usually beans contained in such pods are of poor quality; they may be tough and of poor flavor.

Decay may appear on the pods in the form of irregular sunken areas in which mold may appear.

Shelled lima beans are very perishable. They heat quickly and if kept under ordinary conditions soon become moldy or slimy. Shelled limas should be examined closely for damage and tested for tenderness by puncturing the skin. Those with hard, tough skins are overmature and usually lack flavor.

BEANS, SNAP

There are many varieties of both the green and wax or yellow-pod snap beans. Some of them are flat; others are round. Personal preference is the deciding factor as to the color or shape to be bought. Although stringiness may be developed by age, it is also a varietal characteristic. Some varieties soon become stringy; others are stringless until nearly mature. The latter are rapidly replacing the former varieties grown for commercial shipment.

QUALITY

The best snap beans should be clean, fresh in appearance, firm, crisp, tender, free from blemish, and all in a lot should be of the same stage of maturity so that they will cook uniformly. Firm, crisp, tender beans will snap readily when broken.

Pods in which the seeds are very immature are the most desirable. Generally, length is unimportant if the beans meet the other requirements for quality.

If the seeds are half grown or larger the pods are likely to be tough, woody, and stringy.

Stringiness is very undesirable. This characteristic can be detected by breaking the bean and gently separating the two halves.

Beans age rapidly on the vine and develop toughness as rapidly as they age. A dull, dead, or wilted appearance may indicate that the beans were picked several days before and are no longer of the best quality.

Decay is shown by mold or a soft watery condition.

BEETS

The early or new-crop beets are usually marketed in bunches, three to five to the bunch, with the tops attached either full size or cut back to not more than 4 inches in length. Occasionally small quantities of the new crop are shipped loose to local markets; in such cases, the tops are cut back to within an inch or two of the beet. The fresh green tops of bunched beets make excellent greens. Leaves that are discolored and ragged, with tough stems, are undesirable for this use.

The late-crop beets are usually marketed with the tops removed. These beets are suitable for storage; those that have not been washed are likely to keep well if storage conditions are good. Medium-sized beets of the late crop are less likely to be tough or woody than are the large or very small ones.

Beets that are marketed with the tops removed are usually sold by weight and in some instances by measure.

QUALITY

Good beets should be smooth and free from blemish. Beets that are rough or ridged or that have deep growth cracks are wasteful and may be tough or woody.

It is expected that beets will have some soil on them, but those that are caked with it are difficult to clean.

Soft, flabby, or shriveled beets are wasty and usually poor in flavor. Examination may reveal decay, which generally appears as a soft form of rot.

Bunched beets that have remained too long in the field and have become tough or woody can often be recognized by a short neck covered with deep scars, or by several circles of leaf scars around the top of the beet. Only the early or smaller leaves will have been shed by a tender beet.

Fresh condition of the leaves alone should not be considered as an indication of the quality of the beet. The roots or beets may be of excellent quality, and the tops may be badly wilted or otherwise damaged.

BEET TOPS

Beet tops are usually supplied to markets from local sources. They usually are the plants that have been pulled to thin out the rows. Generally the whole plant is used. Beet tops are usually sold by weight.

QUALITY

Beet tops of good quality are young, fresh, tender, and clean. Old, coarse, heavy-veined, heavy midribbed leaves are usually tough and generally undesirable.

Flabbiness and wilting are the factors of condition that most frequently affect beet tops, but freshness can be restored if the tops are not old and the condition is not too far advanced.

Occasionally beet tops may be found to be in a slimy condition. Such stock should be avoided.

BROCCOLI (ITALIAN SPROUTING)

(Broccoli Greens, see Turnip Tops, p. 57)

Italian sprouting broccoli varies somewhat in size and color, habit of growth, and the manner in which the young sprouts are formed, but in all cases it is the tender young shoots or branches with their flower clusters or heads that are eaten. The heads or flower clusters may vary in size from about 1 to 3 or more inches across, with a stem of proportionate thickness.

Sprouting broccoli is shipped either loose or bunched.

QUALITY

Italian sprouting broccoli to be of good quality should be fresh, clean, and not overmature. The stalks should be tender and firm, and the buds in the clusters or heads should be compact and should not have reached the stage of development at which the color of the flower is evident. The general color should be either darkish green or purplish green, depending on the variety.

Since the whole stalk (comprising the stem, leaves, and flower clusters) is eaten, tenderness is an essential factor of quality.

Toughness and woodiness develop with age, and usually the toughest portion is at the base or lowest portion of the stalk.

Sprouting broccoli that shows yellowed or damaged leaves should be carefully examined and tested for tenderness. It may require excessive trimming to prepare it for use.

Overmature sprouting broccoli is usually woody, tough, or stringy. Overmaturity is indicated by the bud clusters or heads which will be open to the extent that the full yellow or purple color of the blossom is distinct, and in many instances the blossom will be fully developed. An occasional open blossom does not indicate overmaturity.

Wilted, flabby broccoli should be avoided as it may prove to be very wasty and unsatisfactory.

BRUSSELS SPROUTS

Brussels sprouts are essentially miniature cabbages which grow close to the stem at the axils of the leaves of a long-stemmed kind of a cabbagelike plant. They are on the markets during the fall, winter, and spring.

QUALITY

Brussels sprouts of good quality are hard or firm, compact, fresh, of bright appearance, and of a good green color.

Puffy brussels sprouts, although edible, are usually of poor quality and flavor. Those that are wilted or have yellowed leaves are usually aged or stale and because of their wastiness should be avoided.

Worm injury is indicated by riddled leaves. Much waste may be expected when worm injury is found.

A smudgy, dirty appearance may indicate the presence of plant lice. Close examination is often necessary to detect the presence of these insects which sometimes make the sprouts unfit for food. Evidence of the presence of insects may be found on the inner surfaces of the leaves.

CABBAGE

There are several market types of cabbage: the pointed, Danish, domestic, savoy, and red.

The pointed type is one of the familiar early or "new" cabbages and includes the varieties that normally develop conical or pointed heads.

The Danish type includes varieties that mature late and that normally develop hard, tight-leaved compact heads. A head of Danish-type cabbage, even after being trimmed, appears tight and smooth-leaved around the top portion and, when viewed from the stem end, appears circular and regular in outline. This type of cabbage is widely used for winter storage. It is usually white, especially during the late winter months.

Domestic type includes varieties of cabbage that normally develop heads either round or flat in shape and less compactly formed than those of the Danish type. This type includes early, midseason, and medium-late varieties.

The savoy types are finely crumpled-leaved varieties which are roundish or drumhead in shape.

The red type includes all red varieties.

Early or new cabbage shipped from the southern sections during the winter months is frequently harvested before the heads are firm. It is not trimmed so closely as the late or main crop.

New cabbage that has not been properly handled soon loses its freshness. Freshness of appearance of the late or main-crop cabbage is not such an important factor of quality as in the early crop. Late cabbage out of storage may be trimmed down to perfectly white heads by the retailer and still be good.

QUALITY

Prime heads of cabbage should be reasonably solid, hard, or firm and heavy or fairly heavy for their size; they should be closely trimmed, that is, the stems should be cut close to the head, and all except three or four of the outer or wrapper leaves should be removed.

Early or new cabbage usually is not so solid or firm as cabbage of the late or winter crop.

The defects of cabbage are readily detected. Worm injury, decay, yellowing of the leaves, and burst heads are the most common. Cabbage that is badly affected by these defects should be avoided; but if only slightly affected, cabbage may be trimmed and utilized to advantage.

Heads of cabbage which have yellow leaves or are otherwise discolored are generally watery. They may be past their prime or may be affected by some form of injury.

Sometimes examination of a head of cabbage will reveal that the base of some of the outer leaves has separated from the stem and that the leaves are held in place only by the natural folding over the head. Such cabbage may be strong in flavor or coarse in texture when cooked.

Soft or puffy heads, although edible, are usually of poorer quality than those that are hard or firm.

CARROTS

There are two crops of carrots, early and late. The early or new carrots are usually marketed in bunches, five to eight to the bunch, with the tops attached or clipped. The late crop is marketed with the tops removed.

Carrots of the early crop, because they are usually harvested before reaching full maturity, are generally smaller, and of a brighter color and milder flavor than those of the late crop.

Late-crop carrots are generally grown to full maturity and for this reason are generally of deeper color, of more pronounced flavor but are sometimes coarser in texture than those of the early crop. In some varieties the heart may be tough and woody.

The late crop is usually stored and marketed during the winter. Carrots are generally washed before being offered for sale, but often they will be found with considerable soil adhering to them. This does no harm, but it mars the appearance and may possibly hide some defect.

Under present conditions of production and marketing, bunched carrots are on the market practically the whole year and are a strong competitor of the late- or storage-crop topped carrots.

QUALITY

Good-quality carrots are firm, clean, fresh in appearance, smooth, well-shaped and of good color. Usually, although not always true, poor color of carrots is associated with poor quality.

The tops of bunched carrots should be fresh and green. The condition of the tops is an indication of quality, but it is not always a trustworthy one since the tops may be damaged and the roots still be in prime condition.

Carrots that are wilted, flabby, soft, or shriveled are undesirable. They

usually lack flavor. Those that are excessively forked or pronged, or rough, or have deep growth cracks, are wasteful. Carrots showing excessively thick masses of leaf stems at the point of attachment or "neck" usually have undesirably large cores or hearts.

Decay is easily seen. It usually appears as soft or water-soaked areas which may be more or less covered with mold.

CAULIFLOWER

The leaves of cauliflower are long and extend considerably beyond the curd (the flower portion of the head). Usually, in preparation for shipment, these leaves are trimmed down to within 1 or 2 inches of the curd, and only as many of the outer leaves are left as will afford protection to the curd. The number of leaves left on the head has no relation to quality since they are merely to protect the very tender curd, which is easily bruised and broken. Sometimes "wrapped and trimmed" heads of cauliflower are found on the markets. Usually such heads have been very closely trimmed, and paper has been used for protecting the curd. Size has but little relation, if any, to quality. Large or small heads, equally mature, will be found to be equally good.

QUALITY

Fine quality in cauliflower is indicated by white or creamy-white, clean, heavy, firm, compact curd, with the jacket or outer leaves, fresh, turgid, and green.

A compact curd is one that is solid, with the flower clusters closely united. The compact clean curd affords a minimum of waste and is more easily prepared for cooking.

"Riciness" (a term used to describe the curd when the flower clusters have begun to grow, thus giving the curd a ricelike or granular appearance) is not objectionable unless it is associated with an advanced stage of spreading of the flower clusters. Spreading occurs when the flower clusters have grown and developed enough to cause a separation of the clusters, thus making the curd open or loose.

Age is indicated by the yellowing of the leaves, particularly if the leaves drop from the stalk when handled, but other factors may cause yellowing of the leaves. Yellow leaves are not important if the curd has all other requirements for quality.

A spotted, speckled, or bruised curd should be avoided unless it can be trimmed without causing too much waste.

The presence of aphis or plant lice may be indicated by a smudgy or speckled appearance.

Sometimes heads of cauliflower will be found in which the leaves have grown and extended through the curd. These affect appearance only.

CELERY

The old-time custom of shipping celery "in the rough" is being rapidly replaced by the more modern method of trimming, washing, and, in many cases, precooling before shipment. The practice of "clipping" or removing the upper part of the tops has become general in most large producing areas. During the packing process the damaged outer branches are removed, the stalks trimmed, and the celery packed in crates according to sizes. In many markets there are still dealers who make a specialty of washing,

trimming, and bunching celery for a special retail trade. In some cases the celery is trimmed down to the heart. The hearts are sold by the bunch, and the good outer branches are bunched or packed loose in crates and sold for culinary purposes, usually for soup celery.

There are two types of celery found in most large markets, usually referred to by the trade as Golden type and Pascal type. The Golden type is generally blanched, whereas the Pascal type is green in color. Pascal type has exceptionally thick midribs in comparison with Golden type. The greatest demand is for blanched or Golden type; however, the consumption of Pascal type has materially increased in the last few years.

QUALITY

The most desirable celery is that of medium length, thickness, and solidity, with stalks or "branches" that are brittle enough to snap easily. Such celery usually has good heart formation.

Pithy or stringy celery is undesirable. Pithy stalks are those of open texture with air spaces in the central portion. Pithiness may be caused by freezing or may be due to a hereditary defect present during the entire life of the plant. Plant breeders have developed methods of eliminating this trouble. Pithiness can be detected by pressing or twisting the stalks and stringiness can be detected by breaking.

Freezing injury may cause a browning and drying of the tops, which may later decay.

Celery is subject to a trouble called blackheart that is usually followed by rots which attack the heart of the stalk. The rot, if present, can be seen by separating the branches and examining the heart.

The presence of insects or insect injury can be detected in the same way.

Celery that has formed a seed stem has poor flavor and may be more or less bitter. The seed stem can be seen by separating the stalks or branches—the typical heart formation is replaced by the development of a solid roundish stem of varying size, depending on the stage of development.

CHARD

Swiss chard, or chard as it is known on the markets, is a form of beet that is grown for the tops only.

It is on the markets usually in the summer and fall, the supplies usually coming from local sources.

QUALITY

The leaves of chard should be crisp, tender, fresh, and free from insect injury. The stalks should be fleshy and crisp.

Stalks that are wilted or rubbery may be tough, coarse, and stringy. Yellowed leaves or discolored stalks are indications of age or other damage that may cause toughness. Coarse stalks indicate pithiness, the presence of which may be discovered by pressing or twisting the stalk.

CHICORY, ENDIVE, ESCAROLE

Endive has a leaf that is narrow, finely divided, and curly; escarole is a broad-leaved plant. Both are flat and of spreading growth.

Chicory is broad-leaved and of upright spreading growth. Blanched chicory is sold as Witloof chicory and as French or Belgian endive. In the blanched condition the leaves are folded and form an almost solid elongated head or stalk.

QUALITY

Crispness, freshness, and tenderness are the essential factors of quality.

Wilted plants can be freshened by being placed in water, but they may be wasty and should be examined carefully for decay, which may appear as a browning of the leaves or as a slimy rot.

Tough, coarse-leaved plants are undesirable since the usually delicate bitter flavor is likely to be so intensified as to be objectionable. Toughness or tenderness can be determined by breaking or twisting a leaf.

In the unbleached condition the leaves should be green, but when blanched the center leaves should be a creamy white. The Witloof chicory, however, should be entirely creamy white.

COLLARDS

The collard is a form of cabbage, botanically similar to kale; it has somewhat the appearance of the cabbage. It does not form a head, but the leaves are large and are slightly curled at the edges and lightly folded at the heart. There are several varieties, some producing large, others small, plants.

Collards are usually sold by weight.

QUALITY

Collards of good quality are fresh, crisp, clean, and free from insect injury.

Wilting and yellowing of the leaves indicate age or other form of damage. Sometimes worm injury will be found in the form of perforated leaves. Collards with such leaves are undesirable because of waste.

CORN (GREEN)

A slender ear of corn may have just as much kernel as a large coarse ear, owing to the variation in the size of the cob.

Corn found in the markets is of two classes, sweet and field. The latter is usually an early maturing variety of field corn, and is known in some sections as "roasting ears." It may be as tender as sweet corn, but it never has a notably sweet taste.

The ears of sweet corn are usually smaller than those of field corn, and the husks are generally darker green in color, with ribbonlike ends which hang free and give the ear a somewhat ragged appearance. The husks of field corn do not have ribbonlike ends; they taper and cling tightly at the top of the ear.

The color of sweet corn may be either white or yellow, depending on the variety; the field corn sold for cooking is usually white but may be yellow.

In recent years some shippers have stripped the husks from the ear and wrapped the ear in cellophane or parchment, or placed several ears in a cellophane or parchment bag or carton.

QUALITY

A good ear of corn is one that has a cob well filled with bright, plump, milky kernels that are just firm enough to offer slight resistance to pressure. If the husk is present, it should be fresh and green.

Dry, yellowed, or straw-colored husks are an indication of age or damage. Corn heats rapidly when packed for shipment. Heating causes the yellowing and drying-out of the husk as well as the toughening, discoloration, loss of flavor, and shriveling of the kernels.

Corn that is too immature is unsatisfactory. The kernels on cobs of immature corn are very small and very soft, and when cooked they lack flavor.

Corn should be cooked as soon as possible after being picked as it loses flavor very rapidly.

Worm injury is not serious when confined to the tips, since the injured portion usually can be removed with little waste, but it is more objectionable if it occurs along the side of the ear.

Quality can best be determined by pulling back the husk and examining the kernels.

CUCUMBERS

QUALITY

Cucumbers for slicing purposes should be firm, fresh, bright, well-shaped, and of good color. The flesh should be firm and the seeds immature.

Withered or shriveled cucumbers should be avoided. Their flesh is generally tough or rubbery and somewhat bitter. Overmaturity is indicated by a generally overgrown puffy appearance. The color of overmature cucumbers is generally dull and not infrequently yellowed, the flesh is rubbery and tough, the seeds are hard, and the flesh in the seed cavity is almost jellylike. Cucumbers in this condition are not suited for slicing but are excellent for certain kinds of pickles. Some varieties are of solid green color when mature enough for slicing, but usually a little whitish color will be found at the tip, with a tendency to extend in lines along the seams. These lines advance from pale green to white and finally to yellow, with age.

Decay, when present, usually appears anywhere on the surface as a dark, sunken, irregular area.

DANDELIONS

Both cultivated and wild dandelions are on the markets in the early spring, usually from local sources, although some are available during the winter months from southern shipping sections. The cultivated form is usually more blanched in appearance, more upright in habit of growth, and is usually tender.

QUALITY

Large, tender-leaved, fresh green plants are the best.

Age or damage is indicated by wilted, flabby, yellow, or tough leaves. Such plants may prove to be generally wasty.

EGGPLANTS

QUALITY

Heavy, firm eggplants free from blemish and of a uniform dark color are the most desirable.

Age, poor handling, keeping too long, or picking too soon, will cause eggplants to be wilted, shriveled, soft, or flabby. Such stock is not desirable; it is often bitter and usually of poor flavor.

Worm injury can easily be seen; it seldom is so deep that it cannot be trimmed out, but badly injured stock is wasty.

Decay appears as dark-brown spots on the surface. Eggplants so spotted are wasty and frequently become a total loss in a few days.

GARLIC

A garlic bulb is formed by a varying number of cloves, each in its own papery skin or sheath and all enclosed in an outer skin or sheath. In an occasional bulb, the outer skin is split and the cloves are somewhat split. These bulbs are called "splits" or "doubles." From the consumer's viewpoint they are not objectionable provided the individual cloves are plump and uninjured.

Garlic is marketed like onions—loose with the tops removed, or with the tops attached and plaited in strings of 50 or 100 bulbs to the string. There are two sorts of garlic, red and white.

QUALITY

Sound, plump cloves of garlic with the outer skin or sheath unbroken are the most desirable. Such cloves are usually found in garlic bulbs that are clean, compact, and well cured—that is, dry but not soft or spongy and with the outer skin intact.

Soft or spongy garlic is undesirable. It may have begun to sprout or may have been otherwise injured. A split or broken skin of a clove may also be an indication of sprouting.

Dirty bulbs should be avoided for the dirt may conceal defects.

Decay when present may appear in the form of mold, dry rot, or soft rot. Dry rot usually causes shrinking and shriveling and usually starts at the top of the bulb, working downward until the whole bulb is reduced to a dark powdery mass.

GREENS

Beet tops, broccoli, chard, chicory, collards, cress, dandelions, endive, escarole, kale, mustard, sorrel, spinach, and turnip tops are the most common of the leafy type of vegetables used for greens found in the markets. Other types or forms of leaf crops used as greens are appearing in our markets from time to time. Some greens are more common in certain markets than others, but all are usually available in most markets at some time during the year. Most are usually prepared and used in the same way as spinach.

QUALITY

Greens to be of good quality must be fresh, young, green, and tender. Plants, or leaves of any of the leafy vegetables to be used as greens, which are poorly developed, injured by insects, or show excessive dirt, coarse stems, dry or yellowish leaves, are usually lacking in quality and are wasty.

Flabby and wilted plants or leaves indicate age or some form of damage. Such greens are not in good condition; sometimes by trimming and placing them in water their freshness may be restored, but trimming may not always be economical. In almost any greens the presence of seed stems indicates age and toughness.

KALE**QUALITY**

Kale of good quality is usually of a dark- or bluish-green color, clean, and has a fresh appearance.

Some kale has a bronzed or brownish appearance. Such kale is not attractive but the flavor is usually not harmed, as the condition is probably brought about by cold weather during the growing period.

Plants with wilted and yellow leaves should be avoided unless they can be trimmed without too much waste.

LETTUCE

Four types of lettuce appear in the markets: The crisp head, the butter head, cos or romaine, and leaf lettuce. The crisp-head type is most popular and is called Iceberg. The butter-head type is largely represented by Big Boston and White Big Boston. The crisp-head type of lettuce is firmer and is usually larger and crispier than the butter-head type. The latter has a greener, smoother leaf than the crisp-head type.

Cos or romaine is distinguished from the other types by its cylindrical or definitely elongated head, its coarser leaf, and its stronger flavor.

Leaf lettuce, as its name implies, does not head, has either a much curled or somewhat smooth leaf, and has a crisp texture.

QUALITY

Head lettuce to be of good quality should be fresh, crisp, tender, and fairly firm to hard. It should be free from decay, and should not have an excess of outer or wrapper leaves.

Occasionally lettuce that has well-developed seed stems is found on the markets. Usually such lettuce has a bitter flavor and is wasty.

A seed stem that is objectionable although it has not burst through the head can usually be detected by wide spaces between the outer leaves at their base and a knoblike swelling protruding beyond the normal contour of the head. The swelling is usually at the top but may be at the side of the head; if pressure is applied at this point a hard core will be felt.

In some types this condition is frequently accompanied by a purplish tinge on the outer edges of the leaves.

Dead or discolored areas on the outer leaves may be an indication of decay. Sometimes a soft rot is found that penetrates the interior of the head.

Broken, ragged, bruised, or wilted outer leaves are unattractive but usually do not affect the quality of the head. Generally these defects and even decay, if not too severe, may be removed by trimming. Trimming lettuce to remove defects and to improve its appearance is a common practice on all markets. It is often economical to purchase trimmed lettuce.

MUSTARD

Mustard is used considerably, especially in the South. It is found in season in nearly all large markets. The local supply is supplemented by distant shipments. There are several varieties, some of which are very curled at the edges.

QUALITY

Mustard greens should be fresh, tender, crisp, and of a good green color.

Wilted, dirty, discolored, or spotted leaves are indications of poor condition and quality. Mustard with such leaves is usually old and wasty. A common indication of age and toughness is the presence of seed stems.

OKRA (GUMBO)

QUALITY

Young, tender, fresh, clean pods of small-to-medium size, ranging from 2 to 4 inches in length, usually are of good quality.

Pods that are in good condition, fresh, and tender, will snap easily when broken, and they are easily punctured.

Pods that have passed their prime will present a somewhat dull, dry appearance. They usually are hard, woody, and fibrous, and the seeds are hard. Those that have been held too long are likely to be shriveled and discolored and generally will have lost their flavor.

There are white and green and long and short varieties, some of which are more ridged than others. Personal preference will decide which is the best.

Okra is sold either by weight or by measure.

ONIONS (DRY)

Two general classes of onions grown in the United States are found on the markets, the large mild-flavored and the medium-sized strong-flavored. The former are the Bermuda and the Spanish or Valencia types and the latter the domestic or American type.

The Bermuda, a flat early type, is found on the market from March to June. Usually two varieties are available, the white and the yellow; occasionally a red sort may be seen. The most popular sizes are those about $2\frac{1}{2}$ to $2\frac{3}{4}$ inches in diameter.

The Spanish or Valencia type is a large, mild, sweet onion which may be either light yellowish brown or white in color. It is usually globular or may be somewhat oval in shape.

The domestic or late-crop onions are practically all globular and have yellow, red, or white skins; occasionally brown-skin varieties are seen. They are usually good keepers and are found on the market the entire year. The white varieties are usually milder in flavor than the others.

"Boiler" is a term used to designate small-size domestic onions from 1 to $1\frac{1}{2}$ inches in diameter and Bermuda-type onions from 1 to 2 inches.

Pickling onions are those that do not exceed 1 inch in diameter. White varieties of this size are frequently in demand, particularly in the fall.

Onions are generally sold by weight but a few large sizes are still sold by the unit in some retail stores.

QUALITY

Bright, clean, hard, well-shaped, mature onions with dry skins are usually of good quality.

Onions in which the seed stem has developed are undesirable. Usually the neck of such stock is thick and a tough woody condition of the stem or neck is noticeable. The tough stem extends from the very base of the bulb, causing much waste.

Decay generally appears as a rot attacking either the outer scales or the scales in the center of the bulb. It may penetrate the bulb from the neck to the base. Moisture at the neck is an indication of decay.

Misshapen onions are sometimes found on the markets. The most common of these forms are known as "splits" or "doubles" and "bottle necks"—terms which are self-explanatory and which refer to shape only. Misshapen onions are objectionable mainly because of the possible waste in their preparation for table use.

ONIONS (GREEN), LEEKS, AND SHALLOTS

The green bunched onions may be any early onion, usually white, that is pulled before maturity when it has reached the required size. The leek, a plant similar to the onion, has broad dark-green leaves and a straight,

thick, white neck about 1 inch or more in diameter. It has an agreeable but not strong flavor and is used cooked or raw, usually for flavoring. The shallot is a species related to the onion. It grows in oblong clusters which are pulled before maturity. The mature shallot is used chiefly for flavoring.

The green onions, leeks, and shallots, as they appear on the market, are merely blanched leaf bases or incompletely developed bulbs, together with the green portions of the leaves. They are usually sold in bunches. The green onion differs from the shallot in that the onion is somewhat bulbous at the base, whereas the shallot is practically a straight stem. The leek, much larger than the shallot, has a rounded but not a bulbous base.

QUALITY

Green onions, leeks, and shallots of good quality have green fresh tops, and medium-sized necks which are well-blanced for at least 2 or 3 inches from the root and which are young, crisp, and tender.

Bruised, yellowed, wilted, or otherwise damaged tops are not attractive and may indicate poor quality or damaged necks. The wilting and yellowing of the top may indicate age and flabby, tough, fibrous necks. This condition can be ascertained by puncturing with the thumbnail and twisting. Bruised tops are unimportant if they can be trimmed without waste or without spoiling the appearance for table use.

PARSLEY

Parsley is on the market at all seasons of the year. Three types are usually offered for sale; the plain or flat leaf, the curled leaf, and the Hamburg or turnip-rooted. The whole plant of the Hamburg is used—the root for flavoring and the top for garnishing and flavoring.

Sometimes the foliage of the Hamburg type is cut and marketed separately; it is usually long-stemmed. Parsley is usually sold by the bunch.

QUALITY

General appearance is the factor of quality for parsley. It should be bright, green, fresh, and free from dirt and yellowed leaves.

Wilting and yellowing of the leaves denote age or damage; such damage is sometimes caused by bad handling.

Slightly wilted stock can be revived by placing it in water. Badly wilted stock is unattractive and practically worthless.

PARSNIPS

The parsnip is strictly a winter vegetable. Its flavor is not fully developed until it has been exposed to a temperature near freezing. It is usually stored after harvest and sold throughout the winter and early spring. It is customary to wash the stock before selling it.

QUALITY

Smooth, firm, well-shaped parsnips of small to medium size are generally of the best quality.

Soft, flabby, or shriveled roots are usually pithy or fibrous. Softness is sometimes an indication of decay, which may appear as a gray mold or watery soft rot. Woody cores are likely to be found in large, coarse roots.

Misshapen roots are objectionable chiefly because of waste in preparation for table.

PEAS

Peas lose their sweetness and delicate flavor as they mature. Whatever the stage of maturity of the peas purchased, care should be taken to see that the maturity is about the same throughout the lot, to allow for uniformity in cooking. Peas are sold usually by weight.

QUALITY

Peas of the best quality are young, fresh, tender, and sweet. Quality is indicated by the color and condition of the pod, which should be bright green, somewhat velvety to the touch, and fresh in appearance. Some varieties of peas have large puffy pods that stand out away from the peas so that they never appear to be well filled even though the peas are well developed. The pods should be well to fairly well filled, and the peas contained therein well developed.

Pods of immature peas are usually flat, are dark green in color, and may have a wilted appearance. Pods that are swollen, of poor color, or more or less flecked with grayish specks, may be in an advanced stage of maturity. The peas may be tough and of poor flavor.

A yellowish appearance indicates age or damage. Generally, peas with such appearance are poor in flavor or too tough for satisfactory table use.

Water-soaked pods should be avoided as well as those that show evidence of mildew for the peas are likely to be wasty and may prove to be very poor in quality.

PEPPERS

Two types of peppers are found on our markets, the sweet type and the pungent or hot type, to which the chili or cayenne peppers belong.

Sweet peppers are usually of the bell or bull-nose type. They are shipped usually when mature but still green in color. They change from deep-green to a bronze-red or bright-red color as they continue to mature.

Sweet peppers are offered for sale in both the green and the red-colored stages of maturity. The varieties vary in shape—some are long and somewhat slender and pointed; others are short, chunky, and wide. The latter are more desirable for stuffing.

The pungent or hot varieties are found on the markets in either the green or the red stage. They vary from the small chili to the large sizes approaching the bell type. As a rule they are not so thick-fleshed as the sweet pepper and are generally used in the red stage. The chili and cayenne peppers are sometimes threaded on strings and dried before being offered for sale. Sometimes the whole plant is pulled with peppers attached, is dried, and then sold.

QUALITY

Peppers to be of good quality must be mature, firm, well-shaped, thick-fleshed, and of good color and fresh appearance.

Immature peppers are usually soft, pliable, thin-fleshed, and pale in color. Peppers in which the seeds are undeveloped are immature. In mature peppers the seeds are hard.

A firm pepper may yield to slight pressure, but it should not be shriveled, limp, or pliable.

Shriveling or softness may indicate age or immaturity. Peppers that have been kept too long are usually in this condition and are often of poor color.

Constricted, crooked, deformed peppers, provided they are of good quality otherwise, are objectionable only because of their limited uses and the possibility of waste.

Peppers that have surface blemishes should be examined carefully. Such stock may prove to be wasty, particularly if the blemish passes through the fleshy wall.

Sometimes peppers are found on which there is a bleached, discolored area that may be sunken or that may resemble a water-soaked blister. Such peppers should be avoided as they decay rapidly.

POTATOES

Potatoes of the same variety may be had as either new or old stock during the late spring or early summer.

New or early potatoes are dug before they reach full maturity and are marketed as soon as dug. Because of the immaturity and the warm weather at the time they are dug and shipped, they will not stand rough handling and are more subject to injury than are those of the late crop. The skins are easily broken and often present a discolored and feathery appearance.

Potatoes of the late crop are usually more mature when dug. Most of this crop is stored and shipped during the winter and spring. Immature late potatoes are not often on the market; they may be detected by their feathery skins and frequently by a discolored appearance.

Until a comparatively short time ago washing or brushing dirt from potatoes was not considered profitable; such cleaning is now becoming a commercial practice in many sections, but it adds to the cost of preparation for market.

QUALITY

Potatoes that are sound, smooth, shallow-eyed, and reasonably clean are usually of good quality.

Potato varieties vary considerably as to shape, size, and color of the skin, and as to cooking qualities. It is difficult for even the most experienced buyer to identify them.

A mixture of varieties that are not similar as to cooking quality is undesirable. It is often economical to buy and cook a small sample before buying in quantity.

Medium-sized potatoes are usually the most desirable for general use, but selection on the basis of size should be governed by the use for which they are intended.

In some shipping sections many potatoes are packed in consumer-sized bags of 10, 15, and 50 pounds. Potatoes shipped from a few sections are fairly uniformly sized and the size range is marked on the containers, as $2\frac{1}{4}$ to 3 inches, $2\frac{1}{4}$ to $3\frac{1}{2}$ inches, etc. This makes it possible to buy that size of potatoes which you prefer.

Dirty potatoes are unattractive, but the presence of dirt does not injure the eating quality.

Wilted, leathery, discolored potatoes should be avoided. They may have been dug too early or injured by some other means.

Occasionally both new and old potatoes show a green color on some part of the surface. This condition is known as sunburn. It is usually caused by long exposure to light which may have occurred in the field or in storage. Sunburned potatoes should be avoided as they usually have a bitter taste that makes them largely inedible.

Potatoes may sometimes have a hollow center known as hollow heart. The size of the cavity may be very small and cause no appreciable waste; or it may be very large, causing considerable waste. Another serious defect known as blackheart is sometimes found—a black, often slimy center in the potato. It is usually the result of poor storage or shipping conditions. Hollow heart and blackheart are defects that can be detected only by cutting. Hollow heart is more likely to be found in large potatoes, but it may be present in potatoes of smaller sizes. Blackheart is very objectionable, particularly in potatoes used for baking.

Potatoes injured by freezing are sometimes found on the market during the winter. Bad cases are indicated by the potato being wet and leaky; or when cut across, it may show a black ring just within the outer surface. In such potatoes the flavor is usually affected, and the flesh turns dark in cooking.

Decay is one of the most serious defects. It may appear as either a wet or a dry rot, which may affect both the surface and the interior flesh. Sometimes the decay is so slight that it can be cut away with little waste.

Another defect is caused by wireworms. Affected potatoes show numerous small perforations which may be so deep as to cause appreciable waste.

In the late spring or early summer, old potatoes may have a shriveled appearance, may be soft and spongy, or may even be sprouted. They are very wasteful and may not cook satisfactorily.

Badly formed or misshapen potatoes are sometimes offered for sale. They should be considered from the standpoint of the possible quantity of waste in preparing them for use.

RADISHES

Varieties of radishes vary in color, shape and size, and in the season in which they mature. Most of them mature in the early spring and summer; a few, known as winter radishes, mature in the late fall and are very large. Some are round and are from 3 to 4 inches in diameter; others are from 4 to 10 inches long and 2 to 3 inches thick. Winter radishes are either blackish or white in color and are marketed without the tops. As a rule winter radishes are quite pungent but the flesh is usually very firm, crisp, and of good texture.

QUALITY

A good radish is well-formed, smooth, firm, tender, crisp, and mild in flavor.

The condition of the leaves is not always an indication of quality. While they may be fresh, bright, and green, the radishes may be spongy and pungent. They may be wilted and damaged in handling and have a generally poor appearance but the radishes to which they are attached are not at all pithy. If they are coarse, dry, or yellow, the radish may be old or may have been slow in growing. Old or slow-growing radishes are usually strong in flavor, and the flesh may be woody.

Pithiness or sponginess is most undesirable; a slight pressure will disclose the condition.

RHUBARB

The markets are supplied with both forced rhubarb and field-grown rhubarb from local sources. Forced rhubarb is shipped in considerable quantities from the Pacific Coast States and Michigan.

Field-grown rhubarb is usually dark red and rich in color, with a coarse deep-green foliage; forced rhubarb is usually of a light pale-pinkish or reddish color and has yellowish-green foliage which is very underdeveloped—often the leaves are merely in the formative stage. Forced rhubarb is on the market in late winter and early spring and the field-grown during late spring and throughout the summer.

The leaves are not edible and are even said to be poisonous.

QUALITY

Rhubarb of good quality is fresh, firm, crisp, tender, and either red or pink in color. The stalks should be fairly thick.

Stalks of rhubarb that are well colored usually are well flavored; but some varieties on some soils show very little color. The younger stems on which the leaves are not fully grown are usually the most tender and delicate in flavor.

Stale rhubarb usually has a wilted flabby appearance. It is unattractive and may be stringy and of poor flavor when cooked.

Old rhubarb or that which has grown too long before being pulled may be pithy, tough, and stringy. It is usually very wasty. Tenderness and crispness can be tested by puncturing the stalk.

SALSIFY (OYSTER PLANT)

The flavor is said to be improved after the roots have been exposed to temperature near freezing. The roots are practically the same color as the parsnip but are much smaller in diameter.

QUALITY

Smooth, firm, well-shaped roots of medium size are generally of the best quality.

Soft, flabby, or shriveled roots are usually in poor condition. They are usually pithy or fibrous. Softness is sometimes an indication of decay which may appear as a gray mold or a soft watery rot.

Woody cores are likely to be found in large coarse roots.

Misshapen roots are objectionable only because of waste in preparation for table.

SPINACH

Spinach is available throughout the year. The supply comes from many States and is augmented by supplies from local sources.

Texas is the largest shipping State. Considerable quantities also originate in Virginia and Maryland. Spinach is sold by weight.

QUALITY

Well-developed stocky plants with fresh, crisp, clean leaves of good green color are best.

Small, straggly, or overgrown stalky plants are often tough.

Bruising and crushing may occur in handling; such spinach is very wasty.

Plants with yellow leaves, seed stems, or very coarse leaf stems may be tough and woody. Wilted spinach or that which shows yellowing should be critically examined. Decay may be present in the form of a soft, slimy rot.

SQUASH

There are many varieties of both the summer- and winter-type squash; they vary in color, size, and shape.

Most of the white varieties of the summer type are disk-shaped and are known as cymlings or pattypans. The yellow varieties are generally long and are straight or crooked-necked and have more or less rough rind, the roughness of the rind usually increasing with age. The green or green-striped varieties are usually cylindrical and are known on some markets as vegetable marrow or Italian vegetable marrow, or zucchini.

Most of the winter-squash varieties have a dark-green or orange-colored rind, more or less coarse or rough.

QUALITY

Summer squash should be fresh, fairly heavy for the size, free from blemish, and the rind so tender that it can be very easily punctured.

Winter squash should be heavy for its size and free from blemish, and the rind should be hard.

Hard-rind summer squash usually has hard or semihard seeds, depending on the stage of development. This condition makes this kind of summer squash undesirable, since for most table uses the seeds and rind are not discarded. The flesh of hard-rind summer squash is also likely to be stringy. Soft-rind winter squash is usually immature; the flesh may be thin, watery when cooked, and lack flavor.

Bruised or otherwise injured squash should be examined carefully for evidence of decay that may have penetrated the flesh.

Winter squash is subject to decay, possibly because of handling and storage methods. Decay may appear as a watery or water-soaked area, sometimes covered with a moldlike growth, brown or black in color. Often the injury can be cut away without undue waste.

SWEETPOTATOES

There are two general types of sweetpotatoes—those having dry, somewhat mealy flesh when cooked, and those having a moist flesh and high sugar content. The latter are commonly, but incorrectly, called yams on the markets.

The most common varieties of the dry type are Big Stem Jersey, Little Stem Jersey, Golden, and Yellow Jersey. These usually have a yellowish fawn-colored skin and a very light yellow or orange flesh. The moist-fleshed varieties have skins that vary from whitish to a reddish color and flesh that varies from light greenish-yellow to a reddish or orange tint. The varieties vary in shape, and there is considerable variation of shape within the varieties. Nancy Hall and Porto Rico are the most important varieties of this type.

Sweetpotatoes are shipped either as an early crop or are stored for use during the winter and therefore are found on the markets practically throughout the year.

Maturity is of little importance, except that the early crop may be more readily bruised and skinned than those shipped later in the season. Sweetpotatoes are very perishable when abused and are easily injured by careless handling.

A mixture of varieties is not desirable because of the difference in flavor and color of the flesh and because of the lack of uniformity in cooking.

QUALITY

Good sweetpotatoes are smooth, well-shaped, firm, and of bright appearance.

The most common defects of sweetpotatoes found upon the markets are decay, misshape, growth cracks, and wireworm injury.

Badly misshapen potatoes and those with growth cracks and wireworm injury are undesirable only from the viewpoint of waste in preparation.

Sweetpotatoes affected by decay are objectionable, because the decay usually spreads rapidly and usually imparts a disagreeable flavor to the potato even if the decayed portion is removed before cooking. Decay may appear either as a soft wet rot or as a dry, shriveled, discolored, sunken area, usually at the ends of the potato, but it may appear anywhere on the surface. Another form of decay may appear as greenish (almost black) circular spots, varying from small to large. At times the spots are irregular occurring in bruised and injured places.

Sweetpotatoes sometimes are marked with small, dark, clay-colored spots which may unite and form large dark blotches. These spots are only skin deep and affect the appearance but not the flesh. Sweetpotatoes that appear damp should be carefully examined—they may have been badly handled or frozen, or decayed specimens may be present.

TOMATOES

Tomatoes can be had throughout the year. During the summer months most tomatoes come from nearby producing areas. In the winter and early spring, supplies are shipped in from California, Florida, and Texas, and a considerable quantity is imported from Cuba and Mexico. Additional quantities come from domestic greenhouses. The best flavored tomatoes are those that come from nearby areas and are allowed to ripen on the vines.

Tomatoes that are shipped long distances are picked when still green but mature enough so that they will ripen and color properly. A large part of the tomatoes shipped are now ripened in special ripening rooms in the markets, under controlled temperature and moisture conditions, and are then packed in consumer-sized cardboard trays.

Tomatoes that have been picked green and ripened in the markets are less juicy than those ripened on the vine; therefore the very best for fresh table use are to had from the home-grown crop.

QUALITY

Good-quality tomatoes are mature, firm but not overripe, fairly well formed, plump, smooth, of good color, and free from blemish.

There are many defects in tomatoes which are serious only from the standpoint of waste in preparing for table. Catfaces or scars around the blossom end are typical of the defects within this class.

Tomatoes that are rough or irregular in shape may not be attractive in appearance; yet for certain purposes they can be used with little waste.

Tomatoes that have been attacked by worms are very objectionable, especially if the worm has bored deeply.

Those having growth cracks will seldom keep long but are fit for immediate consumption.

Puffy or watery fruit is usually of poor flavor and is wasty. Puffy tomatoes are usually angular in shape and light in weight.

TURNIPS

Early turnips are usually sold in bunches with the tops attached. Sometimes the tops are cut back to about 6 or 8 inches. The early turnips are usually much smaller than those of the late or main crop, which is marketed with the tops removed.

The early crop is marketed as soon as harvested, but much of the late crop is stored for shipment during the winter. Rutabagas are a type of turnip which are usually large and elongated and have yellow flesh.

Early or new turnips are shipped during the winter months while the late or winter crop is still on the markets.

QUALITY

Turnips that are smooth, firm, with few leaf scars around the crown, and with very few fibrous roots at the base are usually of good quality.

The condition of the tops of bunched turnips is an indication of quality. The tops should be fresh, green, young, and turgid. Yellowed or wilted tops of bunched turnips may indicate damage of some kind, possibly caused by long keeping. The turnips may be soft or shriveled. When in this condition they are undesirable as they may be tough when cooked.

Large, coarse, overgrown turnips, especially those that are light in weight for their size, may be tough, woody, pithy, hollow, or strong in flavor.

TURNIP TOPS

Turnip leaves are marketed as turnip tops, turnip greens, and turnip salad.

A form of turnip top is sold on some markets as broccoli greens. It consists of the leaves and seed stems of a variety of turnip grown only for its top, which is cut just before the flower buds burst.

QUALITY

The leaves of turnips should be fresh, clean, crisp, and tender to be of good quality.

Turnip leaves that are wilted, flabby, coarse, very large, or yellowed should be avoided. They are usually watery and generally tough and stringy.

Careful examination should be made for aphids or plant lice and for decay.

Hints on Buying Melons

Selection of melons for quality and flavor is not easy; it often tests the skill of the experienced buyer, who at times will have occasion to find fault with his own judgment.

Sweetness and flavor in melons are not fully developed until the full-ripe stage of maturity is reached. Ripeness in almost all kinds of melons is indicated by the softening of the part of the fruit which surrounds the "eye" or "button" at the blossom end, and which yields to pressure of the finger. Usually the odor that most melons diffuse becomes stronger and is most perceptible when the full stage of ripeness is reached. In some kinds of melons a change of color to a more or less yellowish tinge is also a sign of ripeness. No one indication is infallible. Sometimes one and sometimes a combination of indications must be considered as a guide when selecting melons of good quality.

CANTALOUPS (MUSKMELONS)

Through trade usage "cantaloup" has become the name applied to muskmelons as grown in this country. Actually cantaloup is the name given to melons of a certain group grown mostly in Europe.

Cantaloups are picked at what are known as "full-slip" and "half-slip" stages of maturity. Full-slip means the stage of maturity at which the fruit separates readily and cleanly from the stem. At this stage the fruit is considered to be fully matured. When the melon is picked at this stage, the scar, or point of union to the stem, is slightly sunken, smooth, and well-calloused. Half-slip means the stage of maturity at which only one-half the scar is slightly sunken and the other half is rough. Sometimes a portion of the stem adheres to the fruit.

Early in the shipping season cantaloups are picked at the full-slip stage for long-distance shipment, but as the season advances and the weather becomes warmer the fruit is picked and shipped when it reaches the half-slip stage.

There are many varieties of cantaloups, which are divided into three groups according to the color of flesh as follows: Pink meat, green meat, and salmon meat. Most of the cantaloups at the present time have salmon-colored meat.

QUALITY

Sweetness, fine texture, and flavor of the flesh are factors that determine quality in cantaloups; one can expect to find them only in well-matured melons.

The stage of maturity of a cantaloup is indicated by the netting or veining on the surface and the condition of the scar at the stem end. The netting should be coarse, corky, of grayish color, well-developed, standing out in bold relief and covering the surface to an extent depending on the commercial class to which the variety may belong. The dark-green ground color of the rind should be developed to a lighter shade and may have either a grayish or yellowish tinge. The scar at the stem end should be slightly sunken and calloused, a condition which indicates that when the fruit was picked it separated readily and was not cut or gouged from the stem. Cantaloups that show these characteristics are usually mature and usually have developed their full flavor and the distinctive cantaloup aroma.

A softening of the fruit at the blossom end is a supposed indication of ripeness, but as this softening can be induced by repeated pressure, too much reliance should not be placed on this test.

Overmature cantaloups are usually soft, watery, and insipid. This condition is generally indicated by a very pronounced yellowing of the rind showing through the netting.

Immature cantaloups have a flesh that is generally hard, tough, and flavorless. They are usually poorly netted and are sometimes called slick. The surface color showing through the netting is green, and frequently a small part of the stem adheres to the melon.

Bruised cantaloups are undesirable for the flesh at the bruised areas is usually soft, watery, and insipid.

Cantaloups having growth cracks, unless freshly picked for immediate consumption, are undesirable since the cracks provide easy entrance for organisms which cause decay and souring of the flesh.

Flabby or shriveled cantaloups should be avoided for they lack flavor and are likely to be fermenting.

Decay is indicated by soft, sunken spots on the surface and by mold or moisture on the stem end.

Surface mold or mildew does not usually affect the edibility of the fruit except when it has penetrated the rind, which it can do through broken or injured surfaces.

CASABA

The Casaba is a late variety of melon and is usually ripened off the vine. It is large, almost globular, but may be somewhat pointed at the stem end. The rind is rough, and is wrinkled or furrowed lengthwise of the melon.

QUALITY

A Casaba melon of good quality has a soft, creamy white, sweet, and juicy flesh, without aroma. Only in a ripe melon can such quality be found.

Ripeness is usually indicated by a yellow color of the rind and a softening at the blossom end.

Immaturity is indicated by a firmness and whitish-green color of the rind. The flesh of such melons is hard and often practically tasteless.

Decay usually is in the form of dark, sunken, water-soaked patches that may be covered with a mold. The flesh of a melon affected by decay is not harmed if the decay has not penetrated the rind.

CRANSHAW

The Cranshaw is a new melon of exceptional quality that matures late in the fall and is usually ripened off the vines. It may be stored and marketed during the winter months. The melons usually weigh between 4 to 8 pounds and are pointed at the stem end and round at the base. The rind is fairly smooth, with no netting and very little ribbing, and is mottled with gold and green color. The flesh is thick, juicy, and rich in flavor and of a bright salmon color.

QUALITY

A Cranshaw melon of good quality has a soft, juicy, thick, and bright salmon-colored flesh with a rich aroma. It does not attain its fine quality until fully ripe.

Ripeness is indicated by a further yellowing of the rind and a softening of the tissue, especially at the blossom end. Melons may be picked before they are fully ripe and held to ripen.

Decay may be present in the form of slightly sunken, water-soaked areas which may spread through the rind into the flesh.

HONEY BALL

The Honey Ball is somewhat like the Honeydew melon but smaller. It is a round, slightly netted fruit and may vary in color from a whitish green or gray to a light yellow. Some of these melons are smooth; others are more or less netted.

They are good keepers and can be bought and held for several days until ripe enough to eat.

QUALITY

Prime-quality Honey Ball melons have a thick green-colored, sweet, fine-flavored flesh with a distinct, fine aroma. The rind has a light-yellowish color and yields slightly to pressure. Frequently these melons have

dark sunken spots on them, indicating the beginning of decay or breakdown. Such melons generally have flesh of excellent quality and flavor, provided the spots have not penetrated the rind into the flesh.

Immaturity is generally indicated by the hardness of the melon and the greenish-white color of the rind. The flesh of such melons is firm to hard and the flavor poorly developed.

Bruised melons and those with growth cracks should be avoided as the flesh is likely to be soft and insipid.

Decay is generally indicated by mold or dark, sunken, watery areas.

HONEYDEW

The Honeydew melons are bluntly oval in shape; they vary somewhat in size. Generally they are about 6 to 8 inches in diameter and 8 to 10 inches long; they weigh about 6 to 7 pounds.

The rind is firm and usually very smooth but may be somewhat netted. The color is a whitish green, changing to creamy yellow when fully ripe. They are long keepers and may well be bought before they are fully ripe and held to ripen.

QUALITY

A ripe Honeydew melon has a creamy yellow color, and usually the area around the small scar or button at the blossom end yields to slight pressure when ripe. Ripeness may also be indicated by a slight pleasant odor. Since these melons are usually cut from the vine before they are fully ripe the condition of the stem affords no indication of the stage of maturity.

The flesh of a full-ripe Honeydew is greenish, very juicy, sweet, and of fine-grained and melting texture.

An immature fruit is firm, often hard, with a whitish-green color; the flesh is firm to very firm, is not very juicy, and the sweet flavor is lacking.

Decay appears in the form of sunken water-soaked spots which may have dark-colored, or pink, or black dots in them. These spots may be found anywhere on the surface; in advanced stages they penetrate the rind and enter the flesh, making it soft and sour.

SANTA CLAUS

The Santa Claus or Christmas melon is the latest and best keeper of the winter melons. It is oblong in shape, usually about 6 or 8 inches in diameter and 12 to 14 inches long. The rind is green, with broad bands of slight netting. Because of its good keeping qualities, it can be bought and held until it ripens thoroughly.

QUALITY

A Santa Claus or Christmas melon of good quality has a thick, sweet, firm, juicy, light yellowish-green flesh, and a fine aroma. It does not attain its fine quality until fully ripe.

Ripeness is indicated by a slight yellowing of the rind and a softening at the blossom end.

Immaturity is indicated by the green color of the rind and a general firmness with no indication of softness at the blossom end.

Decay may be present in the form of sunken water-soaked areas which may penetrate the rind and affect the flesh.

WATERMELONS

The larger sized melons are generally preferred because they have more heart or flesh that is free from seed.

QUALITY

The essential factor of quality in watermelons is maturity. It is often difficult for the experienced buyer to determine the stage of ripeness without plugging or cutting the melon.

Usually ripe melons of good quality are firm, symmetrical in shape, fresh and attractive in appearance, and of good color which may vary from a deep solid green to a gray, according to the variety. A bloom is over the surface of the rind, giving it a somewhat velvety appearance; the lower side of the melon is yellowish in color. Generally such melons will have a crisp, sweet, and juicy flesh. Sweetness, however, is largely dependent on the variety.

A common test for ripeness or maturity is the kind of sound given off when the melon is thumped. It is assumed that the melon is ripe when a dull hollow sound is heard, and that it is immature when a ringing sound is emitted. Dependence cannot be placed on this test since the mature melon may prove to be dead ripe or stale, in which case the flesh is likely to be dry and mealy or "slick" and insipid.

Immature melons usually present a hard, greenish, unripe appearance. The underside is usually white or pale green. Overmature or dead-ripe melons have a dull, lifeless appearance and feel soft or springy when pressure is applied with the hand.

Ill-shaped melons are generally found in the smaller sizes; the quality of such melons is generally poor.

Worm injury is sometimes found. The external indications are healed-over punctures; on cutting burrows or grooves will be found extending from the punctures.

Decay occurs at the stem and occasionally may be found on the blossom end. It may be seen at the stem end as a discoloration and softening of the stem. This form of decay spreads rapidly, soon making the melon unfit for use. To prevent the development of this form of decay many growers paint the freshly cut stems with a bluish paste made of starch and copper sulphate. At the blossom end decay appears as a flattened, dry, leathery spot about the size of a silver dollar. Dark sunken spots, sometimes having a watery appearance, may be found on the body of the melon. This form of decay does not affect the quality of the flesh, provided it has not penetrated the rind.

Watermelons sometimes have a hard white streak running lengthwise through the flesh—a condition known as "white heart." Such melons are very undesirable, but there is no way of knowing that they are so affected without cutting them.

PURCHASES OF FRUITS AND VEGETABLES

increased food imports resulting from the increased trade between the United States and Canada. This has been due to the fact that the Canadian market has been more liberal in its policies than the American market. The Canadian market has been more liberal in its policies than the American market. The Canadian market has been more liberal in its policies than the American market. The Canadian market has been more liberal in its policies than the American market. The Canadian market has been more liberal in its policies than the American market.

- The present-day market presents for the consumer's choice an array of fresh fruits and vegetables of good quality, many of which formerly could be obtained only during the season of local production.

With the many different kinds from which to choose, it is not surprising that the housewife finds the problem of selection a perplexing one. Usually she must buy carefully in order to obtain the best possible value for every dollar spent. Many stores emphasize the price appeal and through their selling methods have encouraged the housewife to make her own selection of the foodstuffs offered for sale. This growing practice requires that the housewife know fruits and vegetables, if economical purchases are to be made.

It is with the purpose of pointing out to the consumer factors of quality in fruits and vegetables that this publication has been prepared.

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